Food and Agriculture Organization of the United Nations

International Organisation of Vine and Wine Intergovernmental Organisation

TABLE AND DRIED GRAPES

FAO-OIV FOCUS 2016

Non-alcoholic products of the vitivinicultural sector intended for human consumption

TABLE AND DRIED GRAPES

FAO-OIV FOCUS 2016

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SUMMARY

This report is a collaboration between the International Organisation of Vine and Wine (OIV) and the Food and Agriculture Organization of the United Nations (FAO). It analyses the global market of grapes for direct human consumption (specifically for table and dried grapes). It presents the latest validated data on market size, availability for consumption ('apparent' consumption), domestic production, exports and imports since 2000.

The report is comprised of two sections:

Section 1 includes general considerations on the food uses of grape products, the nutritional value of grapes and on the basics of viticulture.

Section 2 is dedicated to the analysis of the global market of table and dried grapes. It presents the latest data validated on production, and apparent consumption, as well as exports and imports.

CONTENTS

PREFACE

During the last three decades, the FAO Statistics Division and the International Organisation of Vine and Wine (OIV) have been collaborating very closely to improve the quality and availability of statistics on the vitivinicultural sector, which includes grapes, juice, wine, dried grapes and other vine-based products. This cooperation aims to improve the global monitoring of key aspects of the grape market – an important component of the food and agricultural sector - and at enabling the formulation of evidence-based decisions and policies.

The wealth of statistical information available at FAO (through FAOSTAT, the world's largest statistical database on food, agriculture, fisheries, forestry and natural resources), coupled with the scientific and technical expertise of OIV, provides the appropriate knowledge-mix to analyse trends and growth opportunities of the entire vitivinicultural spectrum.

This publication is the tangible output of this good and long-standing FAO-OIV cooperation, and focuses specifically on table and dried grapes . The study presents the reader with some key facts regarding food use and nutritional value of the grape family products, as well as time series since 2000 on domestic production, exports and imports, market size, and apparent consumption.

Considering that the use of grape and its unfermented products represents almost half of the world total grape production, there is a real need for market analysts and policy experts to be able to rely on an updated and comprehensive picture of trends and patterns of the global grape market.

We hope that this study will trigger new opportunities for discussion and for further improving the information base of this sector which is so important for the economy of many countries.

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ABBREVIATION

kha: thousand hectares (1 000 ha)
mha: million hectares
t/ha: tonnes per hectare
mhl: million hectolitres
kt: thousand tonnes (1 000 t)
mt: million tonnes
khl: thousand hectolitres (1 000 hl)
kg per capita: kilograms per capita

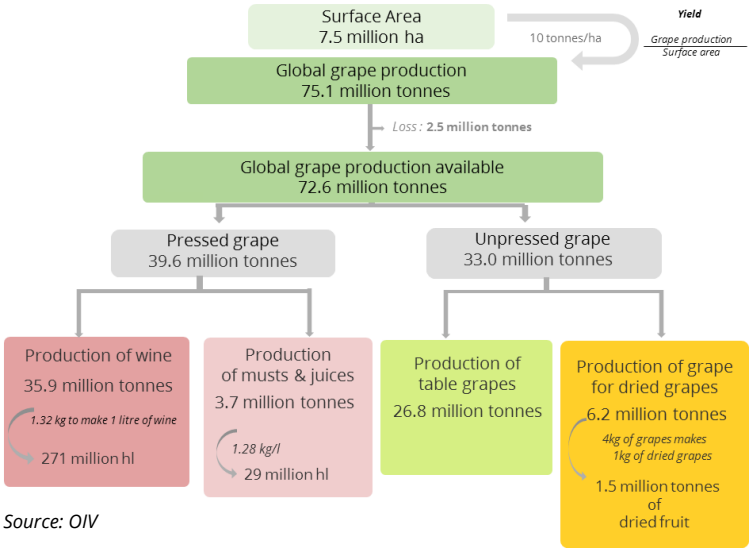
Variety name used	**Synonyms**
Alphonse Lavallée	Ribier
Black Corinth	Zante Currant, Black Currant, Korinthiaki
Dattier de Beyrouth	Afus Ali, Regina bianca, Rosaki, Kerino
Italia	Muscat Italia
Muscat Hamburg	Black Hamburg, Muscat de Hambourg, Black Muscat
Muscat of Alexandria	Moscatel de Malaga, Moscatel gordo blanco
Sugraone	Superior Seedless, Menindee Seedless
Sultanina	Thompson Seedless, Sultaniye, Sultanine, Kishmish

LIST OF APPENDIX

INTRODUCTION

Grapes are one of the world's most commonly produced fruit crops, with approximately **75 million tonnes** produced each year. It is also one of the most abundant fruits: while almost 50% of grapes are used to make wine, one third is consumed as fresh fruit and the rest is dried, consumed as grape juice or stored in the form of grape musts (whether concentrated or not).

Figure 1. Schematic presentation of the global vitiviniculture situation: 2014

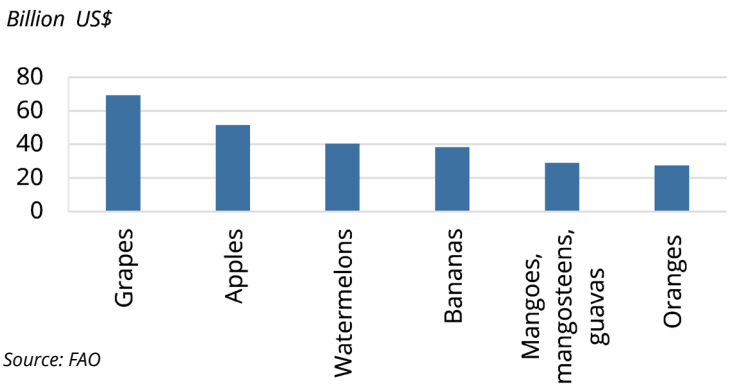


Source: OIV

The cultivation of grapes is spread throughout the world, with an estimated surface area of 7.5 million hectares in 2014, in 100 different countries. Grapes are consumed as both fresh and processed products, such as wine, jam, juice, jelly, grape seed extract, dried grapes, vinegar and grape seed oil.

The reason to have these varied processed products is due to the extreme perishability of the fruit. Grape is in fact one of the fruits with the highest input of technology (cooling, sulfuration, packing, cold storage) and practices (hand labour). For this reason it is the fruit crop with the highest total value of production in the world[1] (Figure 2).

Figure 2. Top Fruit Corps 2014: Value of Agricultural Production

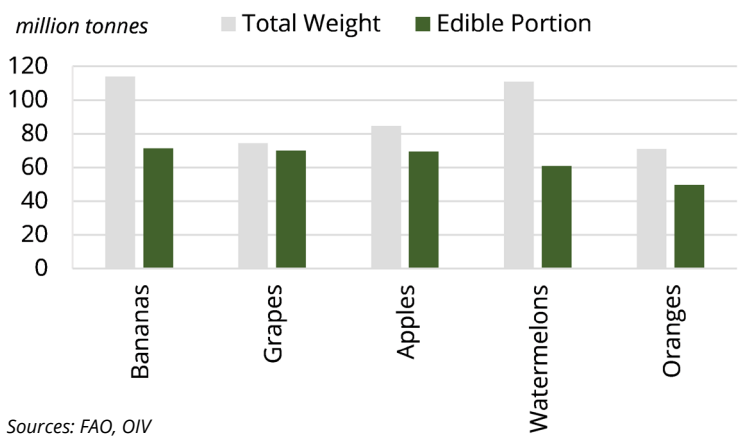


Source: FAO

[1] FAOSTAT Value of gross production has been compiled by multiplying gross production in physical terms by output prices at farm gate. Thus, value of production measures production in monetary terms at the farm gate level.

Global grape production in 2014 was estimated at 75 million tonnes of which 41% was produced in Europe, 29% in Asia and 21% in the Americas. Approximately 45% of grape production is not pressed, while the other 55% is mainly used for wine production. Up to 81% (26.8 million tonnes in 2014) of unpressed grapes are consumed as fresh grapes. Given the versatility of grapes and the size of the global grape crop, it is evident that the grape market plays a substantial role in global food consumption. Considering the edible portions of the various fruits, grapes, in 2014, are the second most produced fruit in net edible terms in the world[2].

Figure 3. Top 5 fruit crops in 2014



Sources: FAO, OIV

[2] The edible portion has been calculated adjusting the total agricultural production by a refuse factor taken from the USDA National Nutrient Database for Standard Reference, Release 28

Given the significance of grape production for the global economy, and the fact that grape fermented products represent roughly half of its total use, there is also a real need to obtain a clearer picture of the trends and patterns in the global unfermented sector of the grape market.

This report aims to provide figures and information on one of the world's top five fruit crops (Figure 3) showing, wherever appropriate, the differences between developed and developing countries and between continents.

By combining the expertise of the OIV and the FAO, this report presents – at the global, regional and country level – a comprehensive perspective of the table and dried grape economies, with detailed information on production, apparent consumption and trade.

I. GRAPES AND GRAPE CULTIVATION AT A GLANCE

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1. Vine products

Domesticated more than 6 000 years ago, grapes are the fruit of a vine of which the most common one is *Vitis vinifera L.*[3].They grow in clusters of small round or elliptic berries, which can either be seedless or contain edible or non-edible seeds.

The most common utilization of grapes from non fermented products are:

Table grapes (fresh grapes): produced from vine varieties cultivated for this purpose, table grapes are destined for direct human consumption due to their sensory and commercial characteristics[4].

Dried grapes: prepared from clean selected grapes of some vine varieties into a form of marketable dried grape, with or without coating.

Grape juice: is the simplest processed product made from grapes.

The OIV defines grape juice as a grape must[5] that is ready to be used or consumed unfermented with the exclusion of all oenological usage. Grape juice can be processed into a grape juice concentrate, which is obtained through partial dehydration of the juice[6]. The aim of concentrating grape juice is to produce a form of the juice that is stable and easy to handle and store, but that can also be reconstituted to a high quality product that is as similar to the original juice as possible. In addition to providing material for reconstitution, grape juice concentrate can be mixed with other juices for the preparation of multi-fruit beverages; it can also be used as a sweetener and can provide a base for the production of sweet spreads.

[3] Most cultivated grape vines belong to the European eco-species (*Vitis vinifera L.*). However, the American eco-species (*V. labrusca* for example) or Muscadine type (*Muscadinia rotundifolia*) are also cultivated in small areas. Interspecific crossing between *V. vinifera* and other eco-species are also cultivated (Black Queen, Isabella...).

[4] OIV International Code of Oenological Practices.

[5] Liquid products obtained from fresh grapes, whether spontaneously or by physical processes such as crushing, removing stems from grape berries or crushed grapes, draining, pressing (OIV International Code of Oenological Practices).

[6] OIV International Code of Oenological Practices.

The grape juice market is a complex one to evaluate because of the various ways in which it can be processed and the differing characteristics of the final product[7].The statistical data currently available on the quantities of grape juice produced and on intermediate unfermented products, as well as their destinations, do not enable us to analyse these flows in any greater detail.

In recent years, there has been a great deal of interest in products made from grapes. The discovery that **both the edible flesh of the grape and its by-products** (such as the seeds and skin) **contain components that are beneficial to human health** (called nutraceuticals) has led to rapidly **expanding markets for grapes and their by-products**. For example, grape seed extracts have been used as nutritional supplements in fruit-flavoured beverages, cereals, snack bars, and dairy desserts such as yogurt. In addition, grape fruit extract and grape seed extract are used in cosmetics and personal care products.

2. Nutritional aspects and health benefits

Few fruits have attracted as much attention in health research literature as grapes. Part of the reason may be their widespread presence in diets worldwide grapes are cultivated on all of Earth's inhabited continents.
Current evidence indicates that **grapes have numerous health benefits in many respects**. As shown in table 2, although it they are one of the richest fruits in carbohydrates (15 to 18 g per 100 g on average) and one with a relatively high caloric content, its Glycaemic Index (GI[8]) is quite low (from 43 to 59). Grapes are also an excellent source of manganese and a good source of vitamins B6, thiamine (vitamin B1), potassium, and vitamin C. In addition, grapes are one of the richest sources of polyphenols (phytochemicals that are antioxidant compounds) among fruits[9].

[7] Grape juice consumption can be evaluated in different ways ; the simplest one is to obtain the relevant data from the country in question, but this information is often not calculated. When available, consumption is often estimated through a consumer panel survey, which can be very different from the real data. Apparent consumption can also be calculated using the commercial balance by adding production to imports and subtracting exports. However, an additional problem arises with regards to the Harmonized System Code (HS) which is the standard for trade data, since grape juice and grape must (that can be fermented into wine afterwards) are identified under the same code (200960), and thus can confuse analysis. Another issue regards grape juice concentrate as it is not possible to know the global average degree of concentration which makes conversion from concentrate to "grape juice made from concentrate" difficult. On the other hand, if we focus on production from concentrate, there is confusion in terms of the data because grape juice concentrate is often mixed up with grape must concentrate despite not having the same final utilization.
[8] The World Health Organisation (WHO) recommends that people in advanced countries base their diets on low-GI foods to prevent the most common diseases of affluence, such as coronary heart disease, diabetes and obesity.
[9] Grapes are one of the richest sources of polyphenols among fruits. They naturally contain a combination of different polyphenols that contribute to their broad range of physiological and biological activities.

Flavonoids, a category of polyphenols, are the most abundant biologically active phytonutrients found in grapes, possessing cardioprotective, neuroprotective, antimicrobial and antiaging properties. Some of these flavonoids give the purple colour to grapes, which means the stronger the colour, the higher the concentration of flavonoids. This is also valid for grape juice. We can underline the presence of proanthocyanidins and stilbenes compounds in grapes that also have a key beneficial health role.

Only a few studies have considered the effects of grape products, apart from wine, on the metabolic parameters associated with **diabetes**. Since the Glycaemic Index (GI) of grape falls at the low end of the range, this fruit is considered appropriate for inclusion in a diet targeting low glycaemic foods, such as that advocated for diabetic individuals [28]. Evidence suggests that the polyphenols in grapes and grape products may reduce risk for heart disease and other health problems, and prevent the development of obesity and type 2 diabetes.

These preliminary positive results could be due to the polyphenols found in grapes or derived products, which have shown inhibitory effects in animal trials. Further studies are needed to investigate the potential health benefits of grapes and derived products in this area.

Table 1: Nutritional facts of the top five fruit crops[10]

for 100g servings	**Apple**	**Banana**	**Grapes**	**Orange**	**Watermelon[11]**
Carbohydrates (g)	12	20	17	8	8
Calories (kcal)	51	81	65	36	29
Glycaemic Index (GI)	39	62	51	40	72
Potassium (% RDAs)[12]	5%	17%	11%	6%	5%
Vitamin B6 (% RDAs)	5%	22%	3%	4%	7%
Vitamin C (% RDAs)	8%	11%	3%	65%	10%
Vitamin B1 – Thiamin (% RDAs)	4%	14%	6%	20%	3%
Vitamin E (% RDAs)	1%	1%	2%	3%	-
Manganese	2%	1%	3%	1%	2%

Sources : United Kingdom Department of Health – Nutrient analysis of fruit and vegetables; USDA-National Nutrient Database; US FDA (Food and Drug Administration) – Fruits nutrition facts; EU directive 2008/100

[10] ROE, M., CHURCH, S., PINCHEN, H., FINGLAS, P., Nutrient analysis of fruits and vegetables, Institute of Food Research, Department of Health (United Kingdom), 2013.
[11] U.S. Food and Drug Administration, Nutrition Facts for Raw Fruits, 2008.
[12] Recommended Daily Allowances (RDA) from EU Directive on nutrition labelling for foodstuffs as regards recommended daily allowances, energy conversion factors and definitions (Commission Directive 2008/100/EC).

Unfermented grape products have been discussed in the scientific literature **in terms of their antitumoral properties** as well, including epidemiological studies showing a protective property of a diet rich in fruits and vegetable[13].

3. Table and dried grape varieties

Compared to wine grapes, **table grapes usually have larger berries and firmer pulp**. These characteristics make table grapes less prone to damage during shipping, as they will not wilt and crush as easily. They also typically have loose bunches and thicker skin, which makes them easy to eat. Another important characteristic of these varieties is the presence of aromatic compounds (wine-producing varieties are mostly non-aromatic—wine's aromas originate from odourless precursors, acquiring their aromatic characteristics during the winemaking process).

At the international level, the OIV and Codex Alimentarius standards for table grapes state that these should be supplied fresh to the consumers[14], and that dried grapes[15] define certain quality tolerance and maturity requirements.

Dried grape varieties generally have small seedless and early-ripening berries, that remain soft and not sticky.

The **most cultivated table grape varieties** are selected according to the following **criteria**:

- the presence of seeds
- shape and colour
- skin thickness
- maturity period
- resistance against diseases and pests
- transportability
- storage period.

Market requirements

Studies have shown **that consumers' tastes and preferences for fresh grapes** tend to conform, especially in established markets such as Northern Europe. There is a preference here for seedless mature yellow grapes with medium sized bunches, with well-developed coloured berries, that are crunchy with thin skin and sweet tasting[16]. Whereas, in emerging markets such as People's Republic of China, there is more demand for varieties like the Red Globe[17] that have large seeded sweet-tasting berries.

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[13] The authors demonstrated that grape seed proanthocyanidins can inhibit migration of human pancreatic cancer cells [114]. Grape juice consumption also revealed a significant decrease in DNA damage before and after the period of supplementation as well as a reduction by 15% in free radical release, compared to the beginning of the supplementation. Other studies show that high grape intake demonstrated an inverse association on breast cancer incidence in post-menopausal women. These findings support a possible cancer-protective property of grape juice.

[14] CODEX STAN 255-2007.

[15] CODEX STAN 67-1981.

[16] Perl et al., 2000.

[17] Celeyrette, C., 2010

Genetic research worldwide has been moving towards the establishment of new cultivars to satisfy market demand and consumers' tastes. The goal is to produce seedless varieties that, in addition to having suitable characteristics for adapting to various environments, also have the characteristic of being less prone to transport damage.

Another important aspect of seedless grapes is that they are suitable for food industry processing.

At the same time, **certain varieties have been abandoned** as their physical, quantitative and qualitative characteristics did not correspond to market needs and consumers' tastes.

One example is the Gros Vert variety, which was widely cultivated in France as recently as the 1960s (when it represented around 6 000 ha of the total grape area), whereas nowadays there are only a few hundred hectares.

Added value could be created in this sector by targeting markets where local production is not available in the given period.

Extending the maturity period is therefore required, and different vinicultural methods have been developed to achieve this. Vineyard covering practices[18] or greenhouses, for example, are used in table grape production to accelerate or delay grape maturity, thus allowing Northern Hemisphere harvests to begin as early as July and extending the harvest through December. Cane girdling, a practice consisting of removing a ring of bark from the trunk, is also used to hasten fruit maturity.

[18] Novello, V., 2008.

Table 2: Some of the most cultivated table and dried grapes varieties

	Variety	Characteristics	Countries
	**Alphonse Lavallée**	Very large black seeded berries Crunchy skin	Argentina, Chile, Turkey, Peru
	**Crimson Seedless**	Small to medium red, elliptic, seedless berries	Egypt, Italy, Peru, South Africa, United States of America
	**Dattier de Beyrouth**	Large white seeded berries, large cluster.Thick skin and firm pulp	Italy, Spain, Turkey
	**Flame Seedless**	Medium red seedless berries	Argentina, Chile, Egypt, Peru, South Africa, Argentina, United States of America
	**Muscat Hamburg**	Medium to large sized black, seeded berries.Muscat flavours	China, mainland, France, Italy,Argentina, Chile, Turkey, Peru
	**Italia**	Very large seeded berries, large clusters	Argentina, China, mainland, Italy
	**Muscat of Alexandria**	Very large white, elliptic, seeded berries, large clusters. Firm pulp with intense muscat aromas	Algeria, Argentina, Greece, Morocco, South Africa, Spain
	**Red Globe**	Medium-sized red, round, seeded berries	Argentina, Australia, Chile, Egypt, Italy, Peru, South Africa, United States of America
	**Sugraon**	Medium to large white, seedless berries, large clusters	Argentina, Australia, Egypt, Italy, Peru, South Africa, United States of America
	**Sultanina**	Small, white, seedless berries, large clusters.Thin skin and firm pulp	Argentina, Australia, Chile, China, mainland, Greece, India, Iran (Islamic Republic of), South Africa, Egypt, Turkey, United States of America
	**Victoria**	Large white elliptic seeded berries. Firm pulp	Argentina, Italy

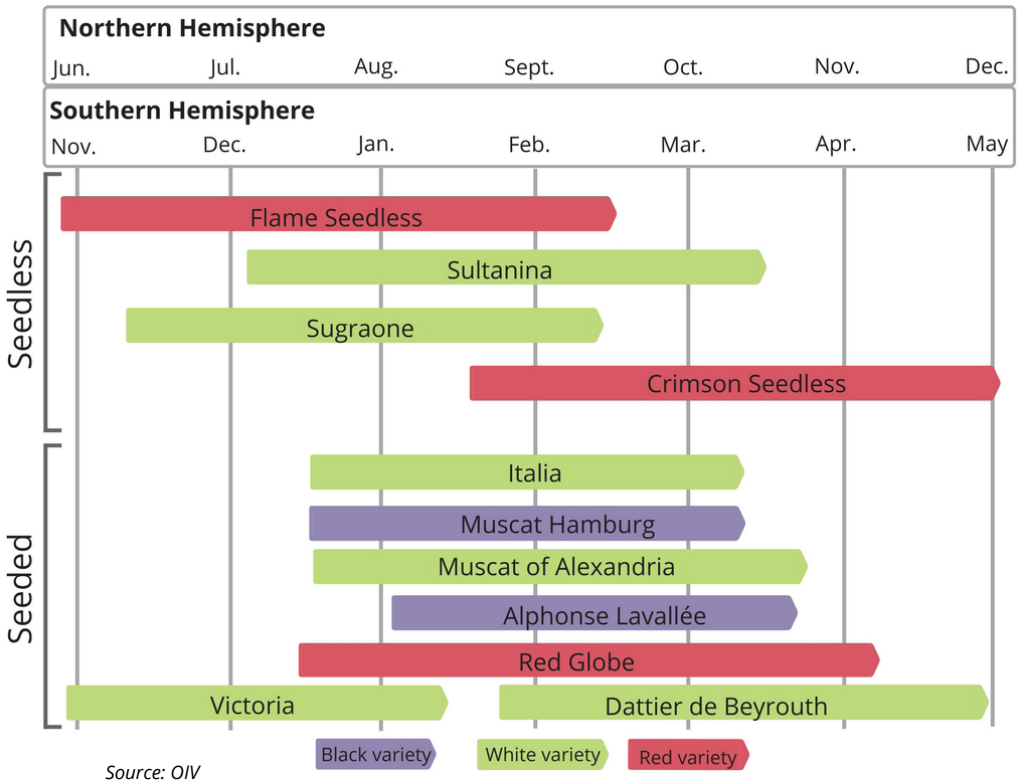
Dried grape varieties

Dried grapes are grouped into two different types according to the variety used[19]:

- **seedless dried grapes** – prepared from grapes that are naturally seedless or almost seedless;
- **seed-bearing dried grapes** – prepared from grapes that have seeds.

The most cultivated variety for dried grapes is Sultanina. This variety produces very small seedless berries (2 g/berry), with a thin skin, that makes them easy to dry. To a lesser extent other varieties are used to make dried grapes such as Black Corinth[20], Fiesta, Muscat of Alexandria, Dattier de Beyrouth, and Flame Seedless.

Figure 4. Schematic presentation of the table and dried grape harvest season



Source: OIV

[19] Resolution VITI 493-2013 OIV.
[20] Synonyms: Black Currant, Korinthiaki, Zante Currant.

4. How table and dried grapes are cultivated

Climate and soil requirements

Grapes are a versatile crop that can adapt to different types of climates and a variety of soils. Table grapes typically require a hot and dry climate (i.e. warm days, cool nights) and low humidity (typically Mediterranean climate). Above all, there must be adequate sunlight to ensure a sufficient supply of carbohydrates (which affects characteristics such as maturity degree, sweetness, and coloration of the fruit)[21].Table grapes and grapes used for drying need more sun than wine grape varieties[22].

Nevertheless, both table and dried grape varieties are grown in a range of climates. In Europe, North America, Argentina, Chile, Australia and Russia, they are grown in temperate conditions, while in Afghanistan, Iraq, the Islamic Republic of Iran, People's Republic of China, Pakistan, Israel and North India they are grown in sub-tropical conditions. They are also cultivated under the tropical climatic conditions of Venezuela, Kenya, South and West India.

Table grapes generally require deep, well-drained soil and a large amount of irrigation water.

Table grape vineyards require more intensive irrigation than wine grapes due to the use of vine 'training' systems designed to accommodate large leaf areas for higher production, but they are not tolerant of either waterlogging or water stress. However, in some countries (such as the Islamic Republic of Iran), table grapes are traditionally cultivated without irrigation.

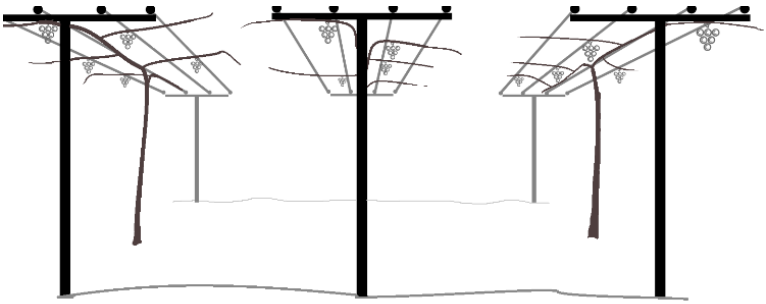
Cultural practices for table grapes

As mentioned above, clusters should be exposed to adequate sunlight during ripening, therefore vineyard management must target that objective. An effective table grape trellis and canopy management system separates clusters from foliage and wires, and one cluster from another.

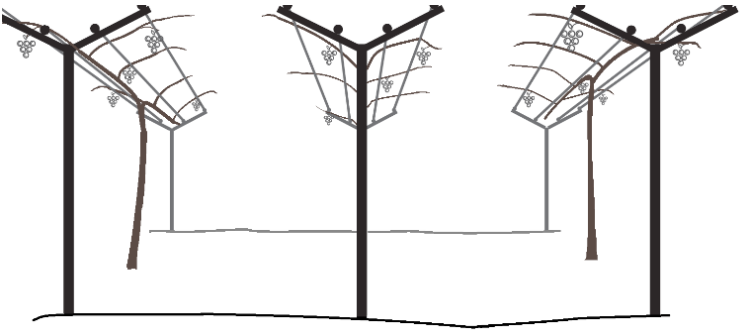
Many different trellis systems exist for table grapes and dried grapes. **The choice of trellis system depends on the way grapes are harvested** (by hand or mechanically), **and/or the climate**. They can be classified as follows:

[21] Dokoozlian et al., 2000.
[22] Jackson and Looney, 1999.

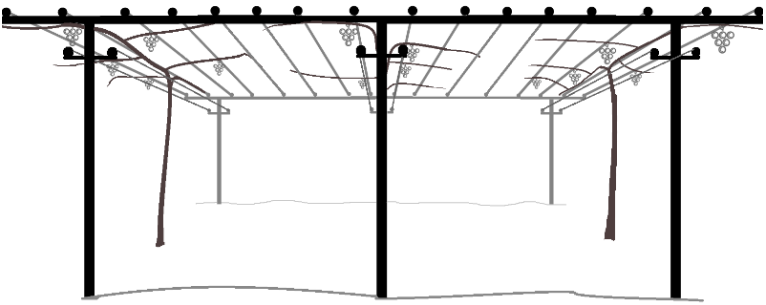
Traditional trellis (T)
The traditional trellis is a T-shaped trellis, with different sizes according to the vine's vigour. The trellis can be inclined so that the canopy is more exposed to the sun.



Open-gable (Y)
The open-gable is a Y-shaped trellis. Canes are tied to wires supported by the cross arms.



Overhead arbour (pergola)
Vines on an overhead arbour are trained so that the fruit is under the canopy, protecting it from sunburn.



It should be noted that other training systems exist but are used less often, such as vertical trellis (VSP) or bush training (a traditional training system mostly used in Middle Eastern countries).

As for wine vineyards, many operations such as winter pruning[23], leaf removal, shoot thinning, etc., are carried out to maintain good vigour, produce large clusters[24], avoid moisture, and provide clusters with enough sunlight.

For table grape vineyards, other specific vineyard **management techniques exist to increase the berry size, berry weight, and yield, and to control maturity**, such as hormone spraying[25], trunk girdling and high crop load[26].

Table grape yields depend greatly on cultivation and **climatic conditions but also vary from one variety to another**. This leads to a wide range of yields across the world: from 6-12 tonnes per hectare in France to 20-30 t/ha in California.

Yields are also linked to the irrigation system and, at least in European countries, to the production regulations system [Protected Designations of Origin (PDOs) and Protected Geographical Indication (PGI)]. For example, for the Spanish PDO "Uva de mesa embolsada de Vinalopó", the Italian PGI "Uva da tavola di Mazzarrone", or the French PDO "Chasselas de Moissac", production regulations determine the quality requirements that the grapes must possess, such as bunch size, colour, maturity and amount per hectare.

Compared with vineyards producing wine grapes, the yield gap is sizeable (as average yield is usually in the range of 5 to 15 t/ha for wine grapes, depending on vine density and cultural methods). In tropical countries, the climate allows more than one crop a year to be produced, which further increases the yield of the table grape varieties.

Special cultural practices for dried grapes

Vineyard management for dried grapes is similar to that of table grape vineyards, with the exception of the harvesting process.

When the fresh fruit reaches the expected sugar content and maturity, it is ready to be dried. Ideal drying conditions are provided by a light air-stream of hot and dry air, where heat is supplied rapidly to the berries and moist air around them continually removed. This phenomenon can be natural (sun-drying, drying in the shade) or artificial (hot air dryer).

[23] For temperate climate viticulture. In tropical climate viticulture, the pruning schedule is different.
[24] Stein and McEachern, 2016.
[25] Gibberelic acid (phytohormone).
[26] Dokoozlian et al., 2000.

There are various common drying methods:

Dried on the floor (traditional method): grape bunches are hand-harvested and laid down on a paper tray to be sun-dried. After up to six weeks, dried bunches can be hand-picked or picked with a machine.

Dried in the shade: grape bunches are hand-harvested and dried on trays in the shade, but still well-ventilated with hot and dry air. This method requires higher production costs.

Mechanically harvested and hot-air-dried: berries are mechanically harvested and transported to the processing location to be dried in a hot air dryer.

Dried-on-the-vine: grapes are dried on the vine by cutting the cane they have been growing on. The sun naturally dries the berries in clusters that are mechanically harvested when the optimum dryness is reached.

During drying, berries can be bleached by sulphuring (Sulphur dioxide, SO_2) to keep the colour and reduce the development of mould. This is the common process for the "golden yellow" types.

Unlike some other fruits (bananas, pears) that continue to ripen after harvest, grapes only deteriorate, so vineyard management prior to picking is important in order to produce "healthy grapes." Also during the drying process, producers must pay special attention to mould development, which could lead to a high level of mycotoxins (ochratoxin A for example)[27] [28].

[27] The formation of ochratoxin A in grapes is mainly due to berry contamination by certain mould species—particularly those belonging to the Aspergillus species (in particular A. carbonarius species and to a lesser extent *A. niger*).
[28] "Code of sound vitivinicultural practices in order to minimise levels of ochratoxin A in vine-based products".

What about grape juice?

As mentioned above, grape juice is the simplest processed unfermented product, obtained by crushing fresh grapes. Hot pressing is appropriate for deeply pigmented grapes where maximum colour extraction is desired. Whereas, the immediate or cold press procedure is necessary to maintain the initial colour of light coloured grapes.

Grape juice is the result not only of the process itself, but also of vineyard management, cultivar selection, and the climate and soil in which the grapes are grown.

Grape juice can be produced by almost any kind of grape variety. However, technological and economic constraints limit the varieties actually used. As already mentioned, table grape vineyards have high production costs, and some table grape varieties are not juicy enough to obtain a good pressing yield. This is why grape juices are often produced in vineyards with higher yields where grapes can be mechanically harvested. Some varieties are especially dedicated to grape juice, such as Concord, which is cultivated in the United States of America and Brazil. Some wine grape varieties are also suitable for being pressed into grape juices.

To avoid natural fermentation, SO_2 can be added, the juice can be pasteurised, or undergo other processes to remove or inactivate yeasts.

Grape juices are often processed into concentrates to reduce storage and transportation costs. Concentrates can be re-diluted or added to other products, either for taste or as a sweetener.

II. MARKET TRENDS

II. MARKET TRENDS

This section provides an analysis of key trends in table and dried grape markets since 2000. It describes recent production, apparent consumption and trade developments, and highlights the major developments for the most relevant countries. This study draws on data and indicators collected from national and international sources.

As a general consideration, it should be noted that countries do not normally collect data on specifically produced for fresh consumption. In this report, these quantities have been calculated using a balance sheet-based approach, by considering the quantities not intended for further processing adjusted by cross-border trade and losses.

Different approaches have been used country by country and detailed descriptions of the methodologies are available in Appendix 1.

5. Table grape

Overview

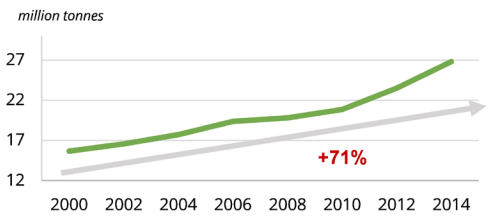
Global table grape production and consumption almost doubled since 2000. Production increased from 15.7 million tonnes to **almost 27 million tonnes in 2014**, with the remarkable cases of People's Republic of China and India being the main drivers of the global increases. People's Republic of China's production and consumption increased respectively by 591% and 571%, and India by 128% and 108%.

International trade of grapes (50% of increase since 2000) is growing due to progress made in cultivation, storage techniques and transportation, trade agreements and harmonization of sanitary and phytosanitary regulations.

Production

In 2014, world production reached almost **27 million tonnes**, an increase of 71% since 2000.

Figure 5. World table grape production



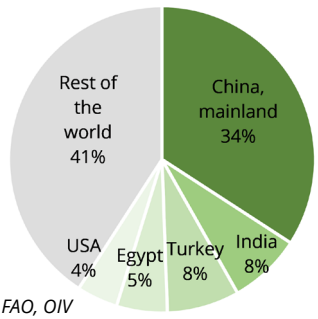
Sources: FAO, OIV

Production fell by 3.3% in 2001 due to globally unfavorable climatic conditions but grew steadily afterward. In particular, production accelerated in the lastest 5 years with an average annual growth rate of more than 5%[29].

Global production of grapes shows an increasing trend despite a continued decrease, particularly in the European Union, of the total area under vines since 2003[30]. The reduction of European vineyards has been partly compensated by an expansion of surface areas planted with vines in the rest of the world, and improved productivity of new and existing vineyards.

Three countries produce over 50% of table grapes : People's Republic of China, India and Turkey.

Figure 6. Table grape global share of production by countries, 2014



Sources: FAO, OIV

People's Republic of China's production increased by 591% between 2000 and 2014, much faster than the overall global growth of 71% over the same period. Production grew at an average annual rate of 26% over 2000-2004. It slowed down in the mid-2000s but increased again by 98% between 2008 and 2013. Production decelerated in 2014 with a growth rate of just 8%. The share of the country in the world production rose accordingly from 8% in 2000 to 34% in 2014, making People's Republic of China the **world's largest table grape producer with 9 million tonnes**.

India's production has more than doubled between 2000 and 2014, rising by 128% and reaching about **2 million tonnes**. Table grape production fel between 2009 and 2010 due to a widespread effort to replant Indian vineyards, however the output rose again in 2011 as the new highly productive varieties began to bear fruit. India has also the **highest productivity** in the world, with an average yield of 30 t/ha.

[29] The annual evolution is calculated with an arithmetic average annual evolution.
[30] This is mainly due to the implementation of the new Common Market Organization1 (CMO) inthe European Union (EU), which provided abandonment subsidies, encouraging producers to reduce overall plantations.

Turkey's production has been slightly fluctuating but shows an overall decrease of 4% since 2000. Production peaked in 2011 to 2.2 million tonnes but decreased by 9% in the following year due to severe weather conditions, attaining 2.1 million tones in 2014.

The United States of America reached a production of about **1.2 million tonnes** in 2014 (+23% compared to 2000). As grape area has expanded, so has total grape production. Table grape production has increased from 0.9 million tonnes in the early 2000s to an average of around **1 million tonnes** between 2005 and 2014.

The information available shows that table grape production decreased by 23 % in the **Islamic Republic of Iran** since 2000. It also declined by 26% in **Italy** due to a decrease of the total area under vine between 2003 and 2014, production dropped at an average annual rate of 2.3%.

Countries that have significantly increased the production over the period 2000-2014 are:

– **Egypt**, with **1.4 million tonnes of table grapes** is now the fourth world producer
– **Uzbekistan** saw an increase of 197% since 2000, with production reaching more than **1 million tonnes** in 2014
– **Brazil**, with an increase of 150%, achieved a production of almost **0.8 million tonnes** in 2014.

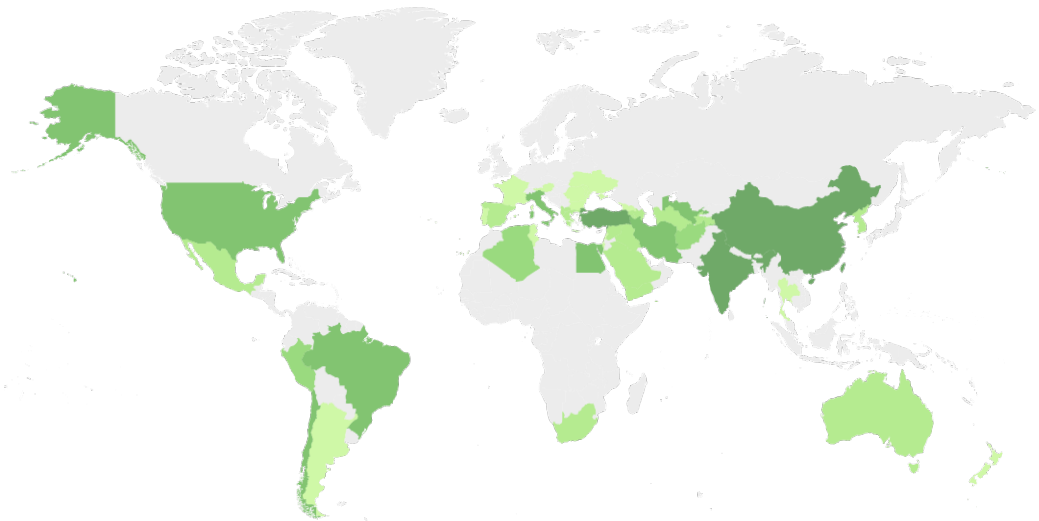
Table 3. Evolution of production for the main table grape producers

million tonnes	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
China, mainland	1.3	1.7	2.3	2.9	3.3	3.4	3.7	3.9	4.3	4.9	5.6	6.2	7.4	8.5	9.2
India	0.9	0.8	0.9	1.0	1.2	1.2	1.3	1.3	1.4	1.5	0.7	1.0	1.8	2.0	2.1
Turkey	2.1	1.7	1.9	1.9	1.9	2.1	2.2	1.9	2.1	2.3	2.2	2.2	1.9	2.0	2.1
Egypt	1.0	1.0	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.2	1.2	1.2	1.2	1.3	1.4
United States of America	0.9	0.8	1.0	0.8	0.9	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2
Iran (Islamic Republic of)	1.5	1.5	1.7	1.7	1.7	1.6	1.7	1.4	1.1	1.2	1.1	1.1	1.1	1.1	1.1
Italy	1.4	1.3	1.4	1.5	1.4	1.7	1.5	1.4	1.4	1.3	1.4	1.2	1.1	1.1	1.0
Uzbekistan	0.4	0.3	0.3	0.2	0.3	0.3	0.5	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1
Brazil	0.4	0.6	0.6	0.6	0.7	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.8

Sources: FAO, OIV

It is also important to highlight the case of **Peru** (0.3 million tonnes in 2014) which, although not being one of the top 10 producing countries, has shown an upward trend since 2008. Table grapes are now one of Peru's main agricultural exports and account for 42% of the value of total fruits exports in 2014. The significant boost in production, as a result of new areas planted in the whole country has been driven by attractive prices and numerous overseas market opportunities.

Figure 7. Table grape production in the world, 2014

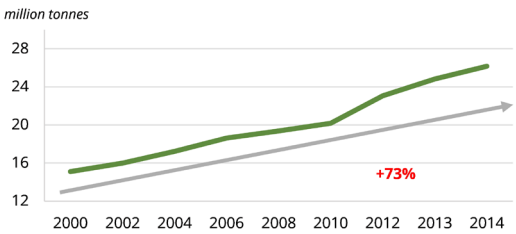


Sources: FAO, OIV

Consumption

In 2014, **26.2 million tonnes of fresh grapes were consumed**[31] **worldwide**. Global consumption increased significantly in the period 2000-2014, going from just over 15 million tonnes in 2000 to a more than 26 million tonnes.

Figure 8. World table grape consumption



Sources: FAO, OIV

Besides accounting for more than 60% of total world production, Asian countries also lead the world in table grape consumption. This is mainly due to the fact that grapes are a fragile and highly perishable product and they are most likely to be consumed close to where they are produced.

As mentioned above, the increase in table grape consumption in these countries, since 2000, is due to greater and longer availability of the product in the markets. Another important factor is the general increase in consumption of fruit and vegetables generally due to rising incomes and consequent change in dietary habits.

People's Republic of China, with an apparent consumption of more than **9 million tonnes** in 2014, is the **main table grapes consumer worldwide**, accounting for 35% of global consumption. Consumption of table grapes has significantly increased since 2000 (+571%) at almost the same pace as production (+591%) over the period[32].Annual per capita consumption also grew steadily, amounting to about 7 kg in 2014, exceeding the world average of 4 kg.

India and **Turkey** follow with **1.8 million tonnes** of table grapes consumed in 2014, accounting for **7% of world consumption**. While consumption is constantly increasing in India since 2000 (+128%), it is slightly decreasing in Turkey (-14% since 2000). As with People's Republic of China, table grape availability and rising incomes are the main drivers of the increase in consumption in India.

[31] We refer here to "apparent" consumption based on the "availability" concept in the FAO Food Balance Sheets framework.
[32] Regmi, A;, and Dyck, J., Effects of urbanization on global food demand, 2001.

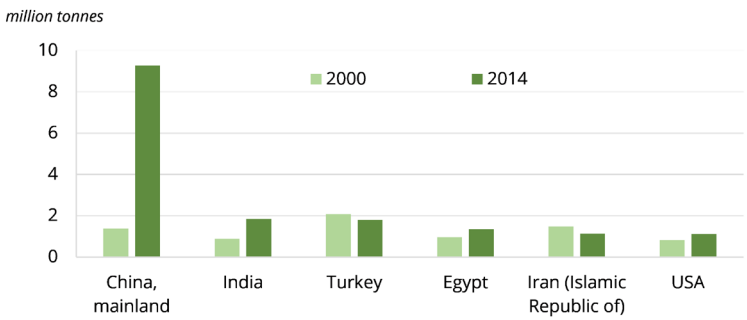
Even though consumption of table grapes is decreasing, Turkey remains among the biggest table grape consumers, with around 23 kg per capita, which is one of the highest consumption rates for all fresh fruits in Turkey.

Egypt is estimated to have consumed around **1.3 million tonnes** of table grapes, while **the United States of America** consumed over **1 million tonnes**, in 2014.

Consumption in the United States of America has grown steadily over the period 2000-2012, at an average annual rate of 1%, and increased its consumption over the last two years at an average annual rate of 9%.

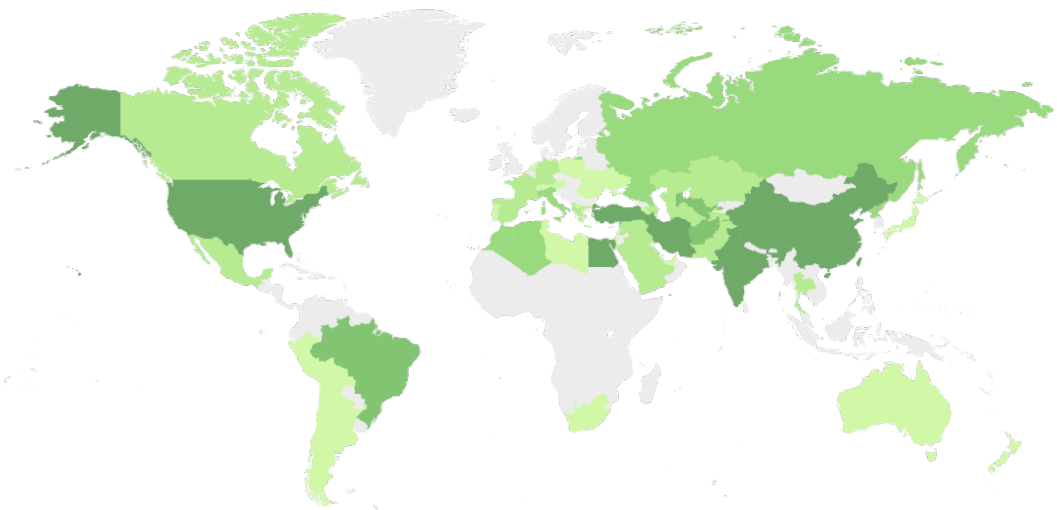
In the rest of the world, **countries are consuming more grapes** and there have been significant increases in the last 15 years. Interesting cases include Thailand (+279%), Russian Federation (+263%), Brazil (+81%), the Netherlands (+40%), and Canada (+25%).

Figure 9. Main table grape consumers



Sources: FAO, OIV

Figure 10. Table grape consumption in the world, 2014



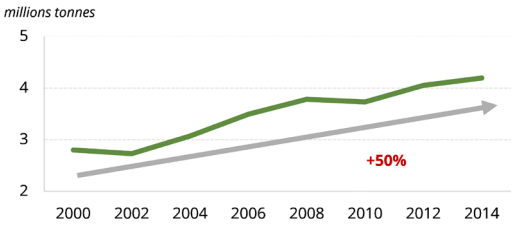
Sources: FAO, OIV

Trade

Despite the fact that grapes are more likely to be consumed locally, international trade of grapes (and other perishable fruits) is growing thanks to progress made in cultivation and storage techniques that facilitate longer shelf-life and increase transportability of these commodities.

Grape export market (considered here as the total exports of all countries) has increased by about 50% over the past 15 years, reaching **4.2 million tonnes** in 2014.

Figure 11. Grape export market



Sources: FAO, OIV

Chile, Italy and **the United States of America** are the **three largest world exporters of fresh grapes**, shipping **732 000, 448 000** and **445 000 tonnes**, respectively. Together, these three countries cover 40% of total world exports.

Since 2000, Italy is the country that has **reduced its exports the most (down by 28%)**. The share of the country in world exports decreased from 22% in 2000 to 11% in 2014. Among the causes that led to this decline in Italian exports are the embargo of the Russian Federation in recents years, in addition to the loss of competitiveness compared to the other traditional competitors (Egypt, Turkey, India, and People's Republic of China)[33].

While 80% of Italy's grape exports, since 2009, have been destined to European countries, Chile's export market is significantly more diverse: in addition to European destinations, the country's top ten export destinations include the United States of America, People's Republic of China, Canada, Republic of Korea and Mexico.

The **Netherlands (276 000 tonnes)**, with almost no production, is the fourth world grape exporter with a 7.6% market share.

It is the second largest European exporting country serving mainly as a trans-shipping point to Germany, Poland, Spain and United Kingdom.

As mentioned above, table grapes are now one of **Peru**'s main agricultural exports. The country experienced an impressive growth in the past 15 years. During this time, exports grew from 3 000 tonnes in 2000 to **266 000 tonnes** in 2014 (6% of world shipments).

South Africa is the world's sixth largest exporter. As with Chile, its production is primarily aimed at the export market. The rise in fresh grape exports (reaching **263 000 tonnes in 2014**, up 41% since 2000) can be explained by the increase in the volume of table grapes produced in recent years.

Among the main producers, one emerging exporter is **Turkey**, for which exports increased by 298% between 2000 and 2014. The share of the country in global trade rose from 2% in 2000 to 6% in 2014, with **258 000 tonnes** shipped.

While People's Republic of China, the Islamic Republic of Iran, Uzbekistan and Brazil

[33] Ismea, *Il mercato delle uve da tavola tendenze recenti e dinamiche attese*, 2015.

consume almost all their production, Chile, Peru and South Africa export nearly all of it. Italy and the United States of America export respectively 43% and 38% of their production.

The export market is growing slowly, as reflected by the ratio of exports as a share of consumption, which reached 16% in 2014. This ratio, however, remains low and less dynamic in comparison with other products in the vitivinicultural sector. This underscores the extent of local table grape consumption, as well as the relative fragility of the product compared to raisins and wines.

The United States of America is the world's largest importer, accounting for 14% of the world's imports in 2014 (497 000 tonnes). Considering that it is the world's leading importer and the simultaneously the world's third largest exporter, the United States of America can be considered as being one of the most prominent players in the global table grape market.

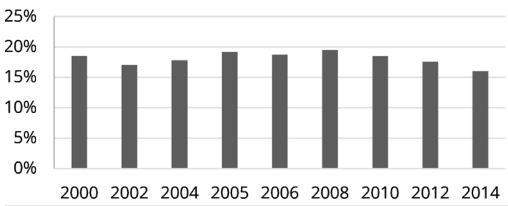
Table 4: Grapes production and export (selected countries)

	2000			2014		
thousand tonnes	Production	Export	%exp./prod.	Production	Export	%exp./prod.
China, mainland	1 330	1	0%	9 187	126	1%
India	903	21	2%	2 059	137	7%
Turkey	2 149	65	3%	2 056	258	13%
Egypt	964	5	0%	1 442	114	8%
United States of America	946	346	37%	1 166	445	38%
Iran (Islamic Republic of)	1 485	0	0%	1 144	16	1%
Uzbekistan	353	48	14%	1 051	23	2%
Italy	1 411	625	44%	1 038	448	43%
Chile	715	676	95%	776	732	94%
Brazil	429	14	3%	763	28	4%
South Africa	190	186	98%	280	263	94%
Greece	244	85	35%	248	88	36%
Peru	58	3	5%	330	266	81%

Sources: FAO, OIV

The Netherlands is the second largest importer (353 000 tonnes), followed by Germany (311 000 tonnes), the Russian Federation (299 000 tonnes), the United Kingdom (258 000 tonnes), People's Republic of China (211 000 tonnes) and France (140 000 tonnes).

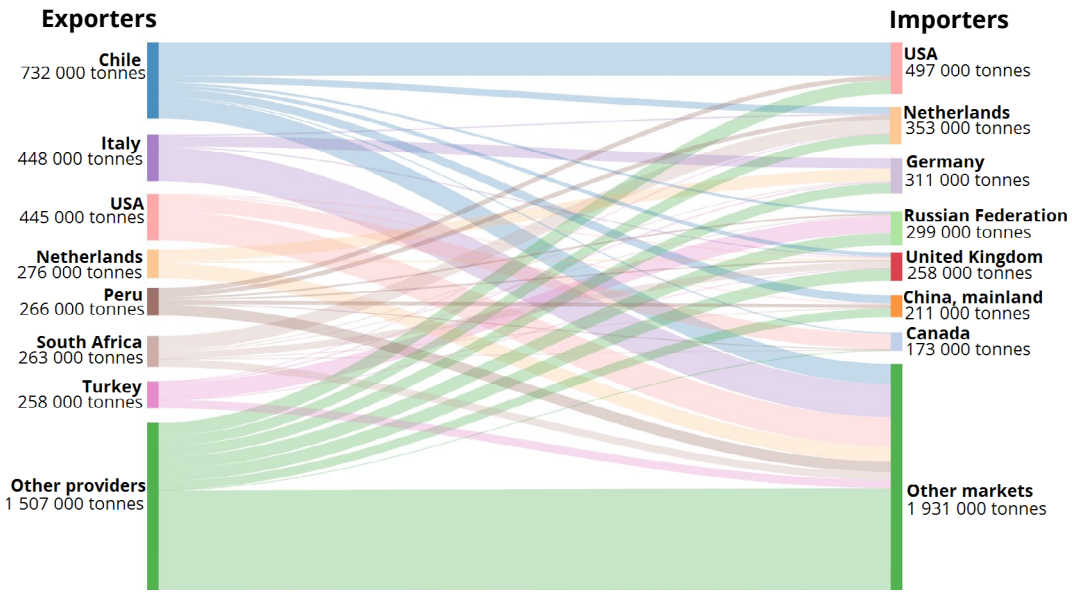
Figure 12. Global proportion of export to consumption



Sources: FAO, OIV

Figure 13. Trade flow in volume in 2014

Data for the top seven exporters and the seven biggest importers



Sources: FAO, OIV

6. Dried grape

Overview

Dried grape production and consumption increased steadily over the past 15 years. In 2014, world production and apparent consumption reached **1.5 million and 1.6 million tonnes**, respectively.

Two countries, Turkey and the United States of America, dominate world dried grape production in 2014, with almost half millions tonnes each.

The two countries account for almost half of the world production.

Although Europe is only a minor producer, it accounts for 33% of world consumption in 2014 while the Americas and Asia represented 22% and 41%, respectively.

As suggested by the prominent gap between production and consumption of dried grapes by continent, this commodity is the **most heavily traded product in the sector**: more than 838 000 tonnes of dried grape were imported worldwide in 2014, which is a considerable amount in relation to the level of world production (about 1.5 million tonnes).

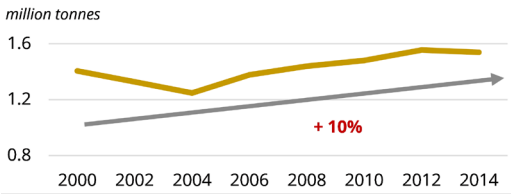
Production

When analysing the dried grape market, the first thing to bear in mind is that dried grapes are a product, as well as a key intermediate product for multiple food industrial uses (distillation to produce for example Rakia in the Balkan region, as well as in the baking and confectionery industries).

It should be noted that some countries produce raisins by processing grapes that were initially intended for fresh consumption, for juice preparation or for winemaking. Therefore, the availability of grapes for drying relies on the demand for grapes needed as inputs for these productions. In addition, production of dried grapes is a way to preserve fresh grapes that cannot be consumed (or vinified) during the short period between the harvest and fruit rot.

World dried grapes production reached **1.5 million tonnes** in 2014, an increase of 10% between 2000 and 2014. Production fell by 11% between 2000 and 2004, it then grew at an average annual rate of 4% over 2005-2012, but slowed down again din the last three years.

Figure 14: Global dried grape production



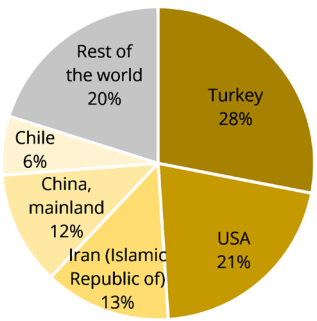
Sources FAO, OIV

Turkey is the **world's largest dried grape producer**: its production reached **429 000 tonnes** in **2014**, with an increase of 27% since 2000. The growth of the domestic market predominately drives this increase in production. Dried fruits are one of Turkey's major exported agricultural commodities, with dried grapes being a valuable cash crop for the country.

The United States of America, with a production of **320 000 tonnes** in 2014, is the second biggest producer (21% of world production). Dried grape production has varied in the last 15 years. It declined between 2000 to 2004 by 44%, but then stabilized since 2005 at around 300 000 tonnes.

These two countries account for almost half of the world dried grape production:

Figure 15: Dried grape share of production by countries, 2014



Sources: FAO, OIV

Trailing the above countries is, **the Islamic Republic of Iran** with a 13% share in the global production of dried grapes (**200 000 tonnes** in 2014). The latest data show that production of dried grapes, in this country, is stable at a level of around 200 000 tonnes since 2007.

People's Republic of China reached **180 000 tonnes** of dried grape produced in 2014. Its production has double over the past 15 years (+ 112% compared with 2000). This increase has been mainly driven by rising internal demand.

Chile recorded a production of **93 000 tonnes**, **which is** an increase of 86% since 2000. A big share of its production is intended for the distillation of Pisco.

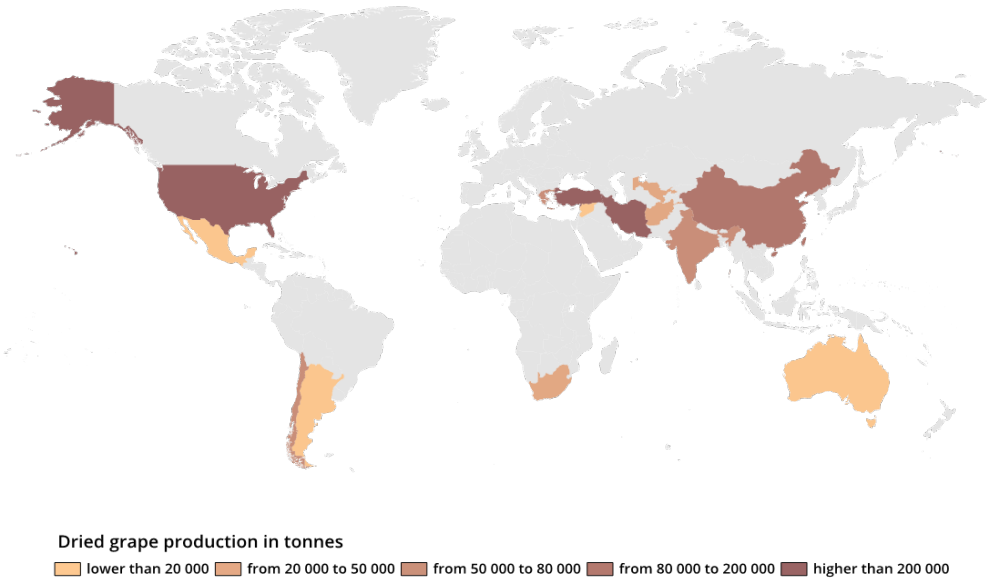
The dried grape market is steadily growing in **India**: up 120% between 2000 and 2014. The share of the country in global production rose accordingly from 2% in 2000 to 4% in 2014. Among other main dried grape producers, we should mention **Greece**, the only significant producer of dried grapes in the European Union. Its production, however, has been decreasing since 2000 (-35%).

Table 5. Evolution of production for the main dried grape producers

thousand tonnes	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Turkey	338	306	329	388	329	362	376	340	368	401	400	409	499	407	429
United States of America	448	378	402	319	252	342	281	323	354	304	358	349	314	368	320
Iran (Islamic Republic of)	188	188	188	200	213	238	213	200	200	200	200	200	200	200	200
China, mainland	85	85	85	90	95	105	125	150	150	185	135	100	150	165	180
Chile	50	45	50	56	54	63	65	67	77	92	75	83	97	83	93
India	28	27	30	31	37	9	41	42	43	47	22	31	56	62	62
Greece	86	89	59	70	83	77	79	52	53	51	60	57	70	56	56

Sources: FAO, OIV

Figure 16. Dried grape production in the world, 2014

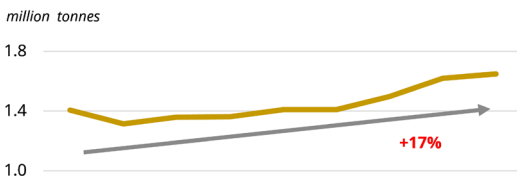


Sources: FAO, OIV

Consumption

In 2014, **1.6 million tonnes of dried grapes were consumed**[34] **in the world**, an increase of 17% from the dawn of the Millennium.

Figure 17. Global dried grape consumption



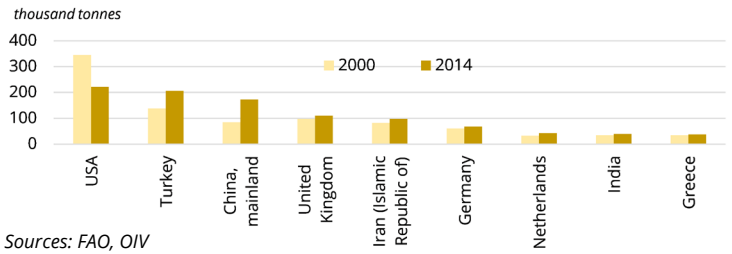
Sources: FAO, OIV

With more than **220 000 tonnes** consumed, **the United States of America and Turkey** are the **leading domestic markets**, accounting for one quarter of global consumption. While apparent consumption has significantly increased in Turkey since 2000 (+59%), it has been stable in the United States of America since 2010.

People's Republic of China, with **172 000 tonnes of dried grape consumed in 2014**, reached the third place. Consumption of dried grapes has significantly increased since 2000 by 103%.

[34] We refer here to "apparent" consumption based on the "availability" concept in the FAO Food Balance Sheets framework.

Figure 18. Main dried grape consumers



Sources: FAO, OIV

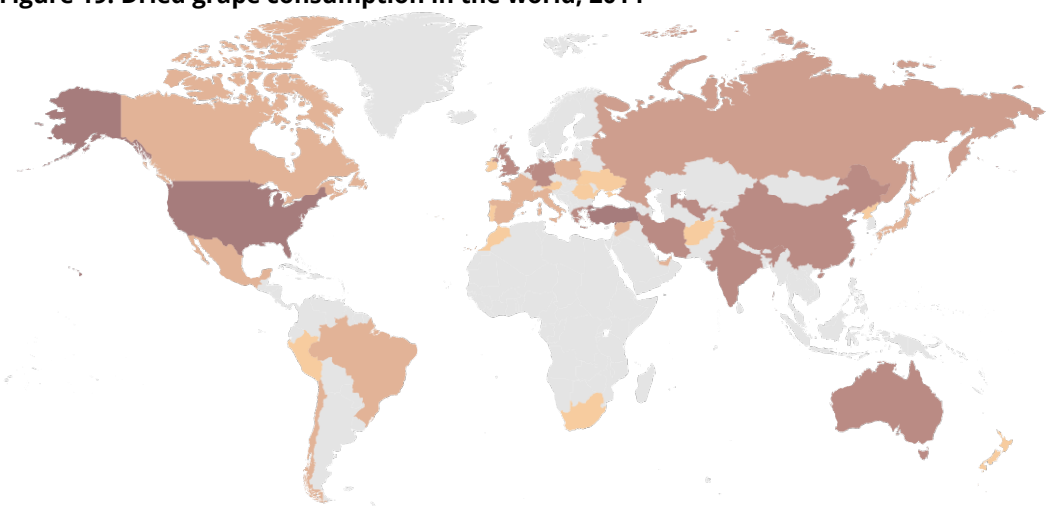
As mentioned above, although Europe is only a minor producer, it accounts for a big share in global consumption (33%). **The United Kingdom** market, which exceeds **100 000 tonnes** consumed in 2014, is the fourth world consumer accounting for 7% of the total. Consumption in the United Kingdom increased by 12% between 2000 and 2014.

Germany, Netherlands and Greece consume respectively 4%, 3% and 2% of the world availability with an increasing trend for all three countries.

The latest available information shows that apparent consumption of dried grapes in **the Islamic Republic of Iran** has plateaued around **100 000 tonnes** since 2008.

In **India** dried grape consumption has been continuously increasing since 2000 (+15%).

Figure 19. Dried grape consumption in the world, 2014

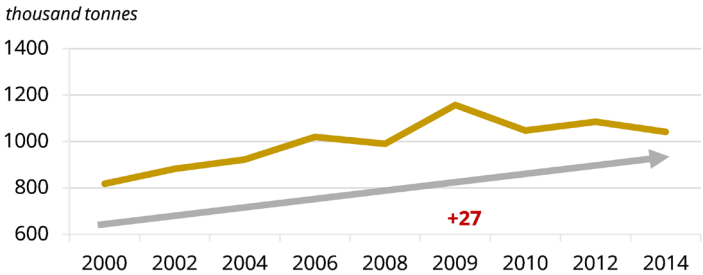


Sources: FAO, OIV

Trade

World foreign trade of dried grapes in 2014 exceeded the 1 million of tonnes. Figures for 2014 figures show a 27% increase in exports, and a 32% increase in imports (838 000 tonnes), since 2000.

Figure 20. Dried grape export market



Sources: FAO, OIV

Regarding exports, Turkey is the **largest exporter** of dried grapes with more than half of local production exported. As mentioned above, dried fruits are one of Turkey's major exported agricultural commodities, with dried grapes a valuable cash crop for the country. Turkey's exports increased by 12% between 2000 and 2014 reaching **226 000 tonnes** in 2014 (22% of the world trade).

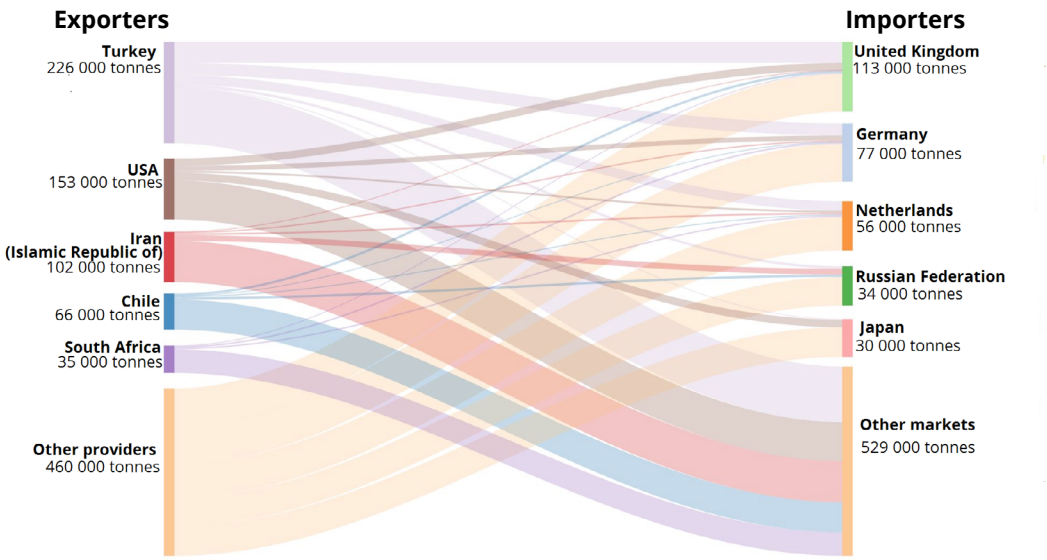
The United States of America, with **153 000 tonnes in 2014**, is the **second largest exporter**, reporting a significant increase of 64% since 2000.

The Islamic Republic of Iran follows with 102 000 tonnes exported in 2014 with a share of 10% in the world trade.

United Kingdom is the world's largest importer of dried grapes in 2014, with **113 000 tonnes**, followed by Germany (77 000 tonnes), Russian Federation (34 000 tonnes), the Netherlands (56 000 tonnes) and Canada (28 000 tonnes).

Figure 21. Trade flow in volume in 2014

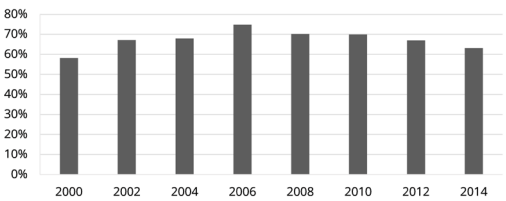
Data for the top fifth exporters and the fifth largest importers



Sources FAO, OIV

Unlike in the fresh grape market, trade accounts for a large share of consumption, as expressed by exports as a percentage of consumption, which reached 63% in 2014. For producing countries in Asia, raisins are largely grown for the export market, the continent exported almost two thirds of its raisin production in 2014.

Figure 22. Global proportion of export to consumption



Sources: FAO, OIV

Methodologies for evaluating the production of grapes intended for direct human consumption (table grapes)

General assumption

It is assumed that there is zero change in stock from one year to another given that this is a perishable product. It is also assumed that the direct processing of fresh grapes is negligible other than that already taken into account, namely pressing (for must, juice and wine) and drying.

Clarification

Data on trade of fresh grapes do not provide details regarding their end use. Thus, these fresh grapes may be intended for direct human consumption as fresh fruit («table grapes»), or be dried or pressed

Abbreviations

- TG: table grape(s)
- FG: fresh grape(s)
- WG: wine grape(s)
- DHC: direct human consumption

Calculation methods
1. Consumption basis:

$$Production_{TG}=Consumption_{TG}+Exports_{FG}-Imports_{FG}$$

Knowledge of TG consumption is required for this method.

This approach implicitly assumes that all trade in FG is actually trade in TG, which is the approximation most often used.

The limits of this method therefore mainly lie in this simplification (which is sometimes incorrect: for example, some wine-producing countries, such as the Russian Federation, import a significant portion of their demand for WG in the form of FG or must) and, most of the time, in the difficulty of knowing whether the consumption of TG is the actual consumption of an end product or if it is apparent consumption, which may therefore include losses in the production of FG and thus lead to an overestimation of TG production.

2. Availability of grapes basis:

$$Production_{\_TG}=(Prod._{FG}+Imports_{FG}-Exports_{FG})-Processing-Losses_{\_(\%Prod.\ FG)}$$

$$Production_{TG}=Domestic\ availablity\ of\ fresh\ grapes-Processing-Losses_{(\%Prod.\ FG)}$$

This method involves calculating the domestic availability of FG (all purposes combined) then subtracting the inputs (grapes used for the production of wine, must, juice and raisins) and losses – usually calculated according to a fixed percentage multiplied by the total production of FG.

It is implicitly assumed that the relatively small amount of international trade in FG (low degree of internationalisation of the sector with the ratio of the exports of FG of all countries to the global consumption of FG at only 17%) means it can actually be disregarded: the imports and exports of a product deemed fragile and for which the end

use is not known are therefore not taken into account (or, equivalently, trade is assumed not to concern products intended for DHC).

While this method does provide certainty that the losses of FG are taken into account (even on a flat-rate basis), it also potentially leads to an underestimation of the level of domestic production of TG if the exports of FG are exports of TG, or an overestimation if the imports of FG are imports of TG.

However, where there is information to suggest that the FG exports of a given country are mainly TG exports, the approach can be refined to that country's production level of TG using a third approach.

3. Based on the total availability of FG

$$Production_{TG}=Prod._{FG}+Imports_{FG}-Processing\text{-}Losses_{(\%Prod.FG)}$$

This method consists of calculating the production of TG based on the total production of FG plus the imports of FG, thus giving us the total availability of FG (and not the domestic availability as in the second approach), then subtracting the processing (grapes used for producing wine, must, juice and raisins) and losses – calculated according to a fixed percentage multiplied by the total production of FG.

This third method can, in the absence of reliable information on the level of domestic consumption of TG but in possession of information on the nature of the exportation of TG in the country concerned, avoid underestimating the level of domestic TG production.

Conversely, if qualitative information is available indicating that a very large majority of the imports of FG are TG imports (and therefore, given the fragility of the product, re-exports are insignificant) then a fourth method that only considers the domestic production of FG can be used.

4. Based on the total production of FG

$$Production_{TG}=Prod._{FG}-Processing\text{-}Losses_{(\%Prod.FG)}$$

Depending on the nature of the information available, particularly if the information on the DHC of FG, i.e. relating to TG consumption, is official, then the first method of evaluating the production of TG is preferred – which is usually the case. On the other hand, if there is no reliable information about the level of consumption of TG, the second method is used, and the third when for some countries (such as Chile or Italy) there is reason to assume that the majority of the exports of FG can be treated as TG exports, i.e. intended for DHC in the country of destination, or the fourth when for some countries (e.g. Canada) there is reason to believe that the majority of the imports of FG are TG imports.

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APPENDIX

Table grape production

APPENDIX A

1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
Algeria	145	139	165	175	170	210	245	172	299	403	468	311	446	476	474
Egypt	964	965	961	1 070	1 138	1 245	1 280	1 322	1 359	1 218	1 219	1 184	1 235	1 285	1 442
South Africa	190	200	251	261	238	267	334	347	374	388	426	400	274	251	280
Tunisia	87	99	75	71	74	71	74	62	71	56	56	72	67	84	96
Other African countries	287	269	303	289	280	288	313	266	295	328	336	370	333	426	421
Total Africa	**1 673**	**1 672**	**1 754**	**1 865**	**1 899**	**2 081**	**2 245**	**2 168**	**2 398**	**2 393**	**2 506**	**2 337**	**2 356**	**2 522**	**2 713**
America															
Argentina	38	31	41	81	92	104	114	111	113	113	78	89	91	72	44
Brazil	429	594	614	629	695	758	758	718	691	668	630	627	625	733	763
Chile	715	671	696	928	745	788	873	826	860	888	816	890	852	898	776
Mexico	207	212	202	285	143	257	154	256	219	204	253	220	314	259	247
Peru	58	74	65	64	68	66	85	69	129	235	245	210	223	286	330
United States of America	946	845	965	847	881	1 068	955	1 037	1 027	1 043	1 046	1 016	991	1 102	1 166
Other America countries	59	66	68	70	68	76	85	93	89	78	90	82	75	76	81
Total America	**2 451**	**2 492**	**2 651**	**2 905**	**2 692**	**3 118**	**3 023**	**3 109**	**3 130**	**3 229**	**3 158**	**3 134**	**3 171**	**3 428**	**3 406**
Asia															
Afghanistan	191	252	233	191	181	189	202	192	202	244	246	346	447	449	571
China	1 330	1 654	2 341	2 902	3 329	3 383	3 706	3 894	4 302	4 867	5 605	6 222	7 353	8 513	9 187
India	903	846	944	993	1 174	1 245	1 310	1 336	1 375	1 484	686	972	1 761	1 967	2 059
Iran (Islamic Republic of)	1 485	1 496	1 663	1 696	1 643	1 691	1 369	1 148	1 210	1 112	1 138	1 065	1 090	1 067	1 144
Iraq	249	270	302	225	189	167	167	166	183	175	191	204	218	243	209
Israel	87	109	112	113	126	113	115	101	86	81	84	79	118	117	90
Japan	53	25	29	45	32	42	42	80	69	60	42	25	44	37	60
Lebanon	68	73	60	78	81	69	73	83	85	96	87	67	75	72	73
Republic of Korea	428	408	380	339	331	343	297	296	300	300	275	242	250	234	260
Saudi Arabia	103	80	80	82	98	116	119	127	169	144	121	122	131	130	132
Syrian Arab Republic	240	230	218	183	138	190	201	182	172	213	199	196	221	159	163
Thailand	40	43	46	51	42	61	62	63	64	65	67	66	64	65	74
Turkey	2 149	1 737	1 876	1 934	1 868	2 064	2 152	1 941	2 085	2 262	2 238	2 246	1 892	1 992	2 056
Yemen	145	150	151	157	97	100	109	117	118	120	155	139	144	145	141
Other Asian countries	220	214	214	221	225	200	229	218	213	226	230	235	227	227	229
Total Asia	**7 691**	**7 587**	**8 647**	**9 208**	**9 554**	**9 975**	**10 154**	**9 943**	**10 634**	**11 448**	**11 362**	**12 227**	**14 035**	**15 418**	**16 446**
Europe															
Albania	70	66	78	94	87	99	108	121	129	134	155	167	165	174	175
Armenia	36	57	53	37	30	80	67	74	48	81	94	101	85	73	104
Azerbaijan	63	54	51	56	47	70	83	80	86	95	92	111	127	128	121
Bulgaria	60	30	27	36	39	22	32	53	62	36	16	15	17	21	21
France	73	80	61	58	63	57	54	51	40	49	47	48	48	38	44
Georgia	23	12	11	23	14	16	14	15	13	7	9	8	9	9	9
Greece	244	265	226	258	252	218	257	230	216	190	276	230	241	250	248
Italy	1 411	1 285	1 360	1 480	1 418	1 661	1 506	1 354	1 368	1 341	1 361	1 207	1 057	1 108	1 038
Republic of Moldova	88	76	54	42	35	48	60	78	59	91	45	74	63	78	91
FYR of Macedonia	101	89	41	86	77	122	95	80	81	92	120	111	98	117	112
Portugal	53	52	58	52	56	49	52	43	41	22	19	16	18	17	14
Romania	130	117	266	174	97	39	67	81	87	73	54	52	52	55	45
Spain	345	322	328	321	331	312	318	256	271	244	229	290	241	251	229
Tajikistan	81	70	53	10	67	65	79	83	79	97	96	134	145	150	162
Turkmenistan	121	137	166	183	209	227	234	260	158	164	165	164	215	222	230
Ukraine	290	134	144	140	80	79	15	24	51	39	11	47	46	59	42
Uzbekistan	353	268	274	162	319	325	507	548	484	611	738	768	875	959	1 051
Other European countries	360	201	222	234	212	181	124	146	181	176	168	219	214	235	222
Total Europe	**3 900**	**3 317**	**3 472**	**3 444**	**3 433**	**3 669**	**3 672**	**3 578**	**3 454**	**3 541**	**3 696**	**3 762**	**3 716**	**3 945**	**3 959**
Oceania															
Australia	67	65	87	75	69	73	82	79	64	69	65	106	108	121	134
New Zealand	na	na	na	na	na	na	4	14	9	7	10	6	9	8	11
Total Oceania	**67**	**65**	**87**	**75**	**69**	**73**	**86**	**93**	**72**	**76**	**75**	**112**	**116**	**129**	**145**
World	**15 782**	**15 133**	**16 612**	**17 497**	**17 647**	**18 915**	**19 180**	**18 891**	**19 687**	**20 687**	**20 797**	**21 573**	**23 393**	**25 441**	**26 670**

na: not available
Source: FAO, OIV

Table grape exports

APPENDIX B

1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
Egypt	5	5	6	7	15	25	28	54	50	136	53	62	116	88	114
South Africa	186	180	207	198	237	230	227	224	218	235	203	246	234	226	263
Other African countries	5	7	10	12	14	23	29	30	32	31	32	23	23	25	26
Total Africa	**196**	**192**	**224**	**217**	**266**	**277**	**284**	**307**	**300**	**401**	**287**	**331**	**373**	**340**	**403**
America															
Argentina	22	26	36	39	48	52	71	59	70	46	50	56	44	23	18
Brazil	14	21	26	38	29	51	62	79	82	55	61	59	52	43	28
Chile	676	631	655	888	693	738	823	776	821	850	781	853	813	857	732
Mexico	115	98	129	167	120	190	112	177	156	128	171	138	168	150	153
Peru	3	7	12	13	11	19	28	26	44	61	77	120	149	176	266
United States of America	346	346	371	366	391	446	372	387	424	375	408	416	422	474	445
Other American countries	6	1	2	1	5	4	4	5	3	3	3	3	2	3	2
Total America	**1 183**	**1 129**	**1 231**	**1 511**	**1 298**	**1 501**	**1 473**	**1 509**	**1 601**	**1 518**	**1 551**	**1 645**	**1 649**	**1 725**	**1 644**
Asia															
China, mainland	1	1	6	13	18	21	34	56	63	100	89	106	122	105	126
China, Hong Kong SAR	53	52	70	62	62	61	47	45	54	94	81	110	117	127	153
India	21	15	26	26	36	54	86	97	118	117	129	75	114	149	137
Turkey	65	79	77	99	159	156	151	170	202	188	238	240	210	203	258
Other Asian countries	99	100	107	124	106	103	96	120	85	100	121	70	95	85	72
Total Asia	**238**	**246**	**285**	**325**	**381**	**395**	**414**	**487**	**522**	**599**	**658**	**601**	**658**	**669**	**745**
Europe															
France	17	18	17	12	20	20	18	18	14	16	15	16	16	17	17
Germany	10	12	11	11	25	44	47	39	40	30	29	35	32	34	29
Greece	85	118	58	69	66	91	89	69	76	85	75	79	67	91	88
Italy	625	667	486	521	466	504	452	461	540	393	479	502	489	508	448
FYR of Macedonia	6	5	7	17	22	38	31	42	30	23	32	35	37	37	28
Republic of Moldova	8	6	6	11	8	11	15	40	20	32	27	33	31	38	50
Netherlands	91	67	92	129	137	160	186	194	252	275	254	263	276	287	276
Spain	99	103	118	122	100	114	126	111	138	121	127	141	128	141	145
Uzbekistan	91	31	21	31	90	109	143	111	58	73	54	112	119	120	120
Other European countries	119	122	118	115	146	140	165	140	151	132	115	118	134	138	116
Total Europe	**1 150**	**1 149**	**932**	**1 038**	**1 080**	**1 231**	**1 273**	**1 226**	**1 319**	**1 179**	**1 206**	**1 333**	**1 328**	**1 410**	**1 317**
Oceania															
Australia	33	31	57	40	45	52	48	41	41	71	29	30	44	79	86
Total Oceania	**33**	**31**	**57**	**40**	**45**	**52**	**48**	**41**	**41**	**71**	**30**	**30**	**44**	**79**	**87**
World	**2 799**	**2 747**	**2 729**	**3 132**	**3 070**	**3 455**	**3 492**	**3 571**	**3 783**	**3 769**	**3 732**	**3 941**	**4 052**	**4 223**	**4 195**

Source: FAO, OIV

Table grape imports

APPENDIX C

1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
South Africa	1	1	3	5	6	9	14	16	15	20	22	29	41	46	54
Other African countries	2	2	2	1	2	3	3	3	5	6	5	8	6	7	20
Total Africa	**4**	**2**	**5**	**6**	**8**	**12**	**17**	**19**	**20**	**26**	**27**	**37**	**48**	**53**	**74**
America															
Brazil	10	7	11	8	6	8	12	16	13	19	25	34	34	33	34
Canada	158	142	164	167	170	198	175	186	193	185	189	178	177	185	173
Mexico	74	75	97	84	69	83	77	83	81	41	60	70	66	73	72
Peru	12	16	4	1	1	2	3	3	2	4	3	2	3	4	3
United States of America	470	407	445	482	471	611	603	589	595	603	589	576	539	563	497
Other Asian countries	71	69	67	63	52	53	57	62	72	74	82	91	95	91	101
Total America	**793**	**717**	**787**	**805**	**770**	**955**	**927**	**938**	**956**	**926**	**947**	**951**	**914**	**948**	**881**
Asia															
China, mainland	52	49	55	53	59	57	46	43	52	90	82	123	146	185	211
China, Honk Kong SAR	98	87	110	88	87	90	92	76	89	127	114	143	156	167	196
Japan	13	12	12	13	14	11	10	8	7	8	13	15	21	23	20
Republic of Korea	8	7	7	11	10	13	17	28	32	28	35	45	54	59	59
Pakistan	36	40	39	55	40	25	33	60	50	63	24	50	46	28	50
Saudi Arabia	24	25	36	35	31	31	32	31	7	7	39	32	39	46	45
Thailand	3	4	4	9	12	11	17	24	27	43	42	58	81	84	88
Other Asian countries	189	184	188	185	189	200	190	191	194	188	182	182	184	188	191
Total Asia	**423**	**406**	**450**	**449**	**442**	**440**	**436**	**461**	**458**	**553**	**530**	**649**	**728**	**779**	**859**
Europe															
France	162	165	137	156	151	155	142	148	165	151	134	163	151	146	140
Germany	349	363	310	323	336	355	352	307	306	307	277	300	296	319	311
Italy	14	12	14	17	20	21	21	24	25	23	23	24	23	19	22
Netherlands	134	118	135	186	161	184	272	329	356	383	355	328	352	361	353
Poland	80	92	69	71	84	95	101	114	143	108	105	115	108	130	104
Portugal	25	25	26	25	28	30	30	30	31	36	27	32	24	29	33
Romania	4	5	3	4	9	18	19	19	21	14	11	14	26	22	29
Russian Federation	98	98	99	148	253	290	321	370	394	354	390	380	359	333	299
Spain	18	26	24	27	26	35	32	34	45	48	44	43	34	35	43
United Kingdom	161	171	196	202	227	247	274	258	275	245	248	234	242	250	258
Other European countries	395	404	375	407	452	514	561	607	604	548	543	576	614	580	591
Total Europe	**1 441**	**1 478**	**1 390**	**1 566**	**1 748**	**1 944**	**2 125**	**2 240**	**2 366**	**2 216**	**2 156**	**2 208**	**2 229**	**2 222**	**2 184**
Oceania															
Australia	-	-	1	1	4	5	5	12	16	18	6	11	17	18	20
New Zealand	7	5	6	9	9	11	11	12	12	10	11	12	12	14	15
Other Oceania countries	1	1	1	1	1	2	1	1	1	2	1	1	2	2	2
Total Oceania	**8**	**6**	**8**	**11**	**15**	**18**	**17**	**26**	**30**	**29**	**18**	**23**	**31**	**34**	**36**
World	**2 669**	**2 609**	**2 641**	**2 838**	**2 983**	**3 368**	**3 522**	**3 685**	**3 829**	**3 750**	**3 679**	**3 868**	**3 950**	**4 036**	**4 034**

Source: FAO, OIV

Table grape consumption *

APPENDIX D

1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
Algeria	145	140	165	175	170	210	245	173	300	405	470	315	450	480	480
Egypt	960	961	955	1 063	1 124	1 222	1 253	1 269	1 311	1 084	1 168	1 123	1 120	1 198	1 341
Libya	45	36	27	27	27	30	29	28	29	29	34	36	42	48	55
Morocco	212	203	241	255	217	231	261	240	240	268	275	317	276	365	355
South Africa	25	30	27	30	28	37	33	35	37	39	43	40	27	25	28
Tunisia	87	98	75	71	74	71	74	61	70	55	55	70	65	79	90
Other African countries	20	23	25	22	21	19	19	18	17	21	19	19	21	23	24
Total Africa	**1 494**	**1 491**	**1 514**	**1 643**	**1 660**	**1 820**	**1 914**	**1 824**	**2 003**	**1 901**	**2 064**	**1 920**	**2 001**	**2 218**	**2 373**
America															
Argentina	38	31	41	42	43	52	43	52	44	37	36	18	30	24	13
Bolivia	21	23	26	23	19	20	20	20	19	13	14	14	15	15	15
Brazil	425	582	598	599	635	653	708	654	622	632	596	602	606	723	768
Canada	142	132	148	156	154	168	166	165	176	168	172	161	171	179	176
Chile	38	40	41	40	52	50	50	50	40	38	35	37	40	42	44
Mexico	165	189	170	203	92	150	119	163	144	117	142	153	212	183	166
Peru	67	84	57	52	58	49	60	46	87	178	171	92	77	114	67
United States of America	823	784	891	731	801	903	724	835	857	816	865	857	874	1 013	1 113
Other Asian countries	94	98	101	99	90	99	112	125	133	131	150	153	150	147	161
Total America	**1 811**	**1 963**	**2 073**	**1 945**	**1 945**	**2 144**	**2 002**	**2 109**	**2 121**	**2 130**	**2 181**	**2 088**	**2 175**	**2 439**	**2 523**
Asia															
Afghanistan	178	227	230	166	162	182	203	173	190	261	245	355	462	446	562
China, mainland	1 381	1 702	2 390	2 942	3 370	3 419	3 718	3 881	4 291	4 856	5 597	6 238	7 377	8 593	9 272
China, Hong Kong SAR	33	24	27	16	14	18	34	22	25	19	19	20	20	21	20
China, Taiwan Province of	102	91	95	98	107	94	112	102	100	106	106	109	105	109	113
India	883	834	922	972	1 145	1 199	1 236	1 254	1 272	1 387	578	916	1 666	1 841	1 841
Iran (Islamic Republic of)	1 484	1 495	1 661	1 689	1 637	1 683	1 355	1 135	1 208	1 106	1 114	1 055	1 072	1 053	1 132
Iraq	249	270	302	225	189	167	170	168	183	189	229	208	218	246	213
Israel	81	104	108	111	119	105	104	93	79	74	75	76	113	112	88
Japan	67	36	41	57	46	53	52	87	75	67	54	41	65	59	79
Republic of Korea	436	415	386	350	341	356	314	323	332	328	309	287	304	293	319
Pakistan	106	114	112	140	112	84	96	173	190	135	164	143	135	103	145
Saudi Arabia	126	103	113	116	128	143	149	155	174	150	158	152	169	173	173
Syrian Arab Republic	219	216	193	175	131	177	198	157	168	183	170	192	215	153	162
Thailand	43	47	50	60	54	73	79	87	91	107	108	124	144	148	162
Turkey	2 084	1 658	1 799	1 836	1 709	1 909	2 001	1 771	1 883	2 074	2 001	2 007	1 683	1 790	1 798
United Arab Emirates	10	7	7	13	6	0	19	17	20	21	19	19	27	33	31
Yemen	144	148	148	155	95	99	109	117	118	120	154	138	143	144	140
Other Asian countries	192	204	221	208	248	241	261	285	333	365	336	335	356	338	316
Total Asia	**7 817**	**7 693**	**8 803**	**9 329**	**9 613**	**10 004**	**10 209**	**9 999**	**10 732**	**11 548**	**11 436**	**12 415**	**14 274**	**15 655**	**16 566**
Europe															
Albania	75	72	85	101	102	114	119	128	134	138	160	174	169	178	181
Armenia	35	56	53	36	30	80	67	73	46	77	87	94	75	66	96
Austria	32	32	27	24	74	35	35	32	31	38	31	34	36	35	34
Azerbaijan	63	54	51	56	47	71	85	80	86	96	95	114	129	128	121
France	210	211	182	181	180	195	161	186	193	189	159	150	182	167	167
Germany	325	328	313	279	294	289	311	283	227	241	250	250	250	250	272
Greece	160	150	170	190	189	130	170	166	146	110	205	154	176	160	161
Italy	800	630	888	975	815	955	1 000	867	954	882	807	790	600	500	480
Kazakhstan	22	22	-	-	21	14	17	18	14	35	71	147	207	94	171
FYR of Macedonia	95	84	34	70	54	84	64	39	50	69	88	76	61	81	85
Republic of Moldova	80	70	49	31	27	37	45	38	39	59	19	41	32	41	41
Netherlands	29	39	30	39	9	6	59	103	69	71	67	33	42	39	41
Poland	72	83	62	64	73	79	79	86	112	88	82	91	79	98	86
Portugal	73	61	61	59	78	75	71	53	47	46	48	39	38	34	37
Romania	134	122	114	176	130	95	67	99	87	137	65	66	76	76	74
Russian Federation	83	83	84	125	215	246	273	314	334	301	331	323	305	283	301
Spain	262	229	221	227	259	226	237	180	178	171	155	194	136	142	162
Switzerland	40	35	35	36	46	44	33	33	38	38	35	36	34	35	32
Tajikistan	78	66	47	9	62	59	68	75	74	92	95	132	144	148	161
Turkmenistan	121	136	166	181	207	225	230	257	157	163	164	162	214	221	230
Ukraine	290	70	60	140	80	100	70	90	110	70	50	86	90	80	66
United Kingdom	139	149	168	175	196	209	226	226	236	213	217	205	211	216	226
Uzbekistan	262	238	254	131	229	216	365	437	426	538	684	656	756	839	931
Other European countries	459	406	409	455	541	433	585	632	654	594	442	439	464	500	471
Total Europe	**3 940**	**3 423**	**3 562**	**3 759**	**3 956**	**4 016**	**4 434**	**4 495**	**4 442**	**4 455**	**4 408**	**4 485**	**4 506**	**4 412**	**4 627**
Oceania															
Australia	34	34	31	36	28	26	39	50	39	15	42	87	80	61	67
New Zealand	7	5	6	8	9	8	14	26	21	17	21	17	21	22	25
Other European countries	8	6	7	10	10	10	15	27	22	19	22	18	23	23	27
Total Oceania	**49**	**45**	**44**	**54**	**48**	**43**	**68**	**104**	**82**	**51**	**84**	**123**	**124**	**106**	**119**
World	**15 111**	**14 616**	**15 997**	**16 729**	**17 222**	**18 027**	**18 626**	**18 531**	**19 380**	**20 085**	**20 173**	**21 031**	**23 080**	**24 830**	**26 208**

* We refer here to "apparent" consumption based on the "availability" concept in the FAO Food Balance Sheets framework.

Source: FAO, OIV

Table grape consumption per capita*

kg/hab

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Albania	22.8	22.0	26.2	31.2	31.7	35.8	37.5	40.4	42.4	43.7	50.9	55.2	53.6	56.2	56.7
Turkmenistan	26.9	29.9	36.0	39.0	44.1	47.3	47.9	53.0	31.9	32.7	32.5	31.6	41.3	42.2	43.3
Macedonia	46.1	40.7	16.3	33.4	26.1	40.0	30.4	18.4	23.9	32.8	42.0	36.2	29.0	38.5	40.3
Armenia	11.4	18.3	17.3	11.9	9.9	26.5	22.3	24.3	15.3	26.0	29.5	31.9	25.2	22.1	32.3
Uzbekistan	10.6	9.5	10.0	5.1	8.9	8.3	13.8	16.4	15.8	19.7	24.6	23.3	26.5	29.0	31.7
Turkey	33.0	25.9	27.7	27.8	25.6	28.2	29.2	25.5	26.8	29.1	27.7	27.5	22.5	23.5	23.2
Tajikistan	12.6	10.4	7.3	1.3	9.3	8.7	9.8	10.5	10.2	12.4	12.5	16.9	17.9	18.0	19.1
Afghanistan	8.6	10.6	10.3	7.2	6.7	7.3	7.9	6.6	7.0	9.4	8.6	12.2	15.5	14.6	18.0
Egypt	14.5	14.3	14.0	15.3	15.9	17.0	17.2	17.1	17.4	14.1	15.0	14.1	13.9	14.6	16.1
Greece	14.6	13.6	15.4	17.2	17.1	11.7	15.4	15.0	13.1	9.9	18.5	13.8	15.8	14.4	14.5
Iran (Islamic Republic of)	22.5	22.4	24.5	24.6	23.6	24.0	19.1	15.8	16.6	15.0	15.0	14.0	14.0	13.6	14.4
Azerbaijan	7.8	6.6	6.2	6.7	5.6	8.3	9.8	9.1	9.7	10.6	10.4	12.4	13.9	13.6	12.7
Algeria	4.6	4.4	5.1	5.3	5.1	6.2	7.1	4.9	8.4	11.1	12.7	8.3	11.7	12.2	12.0
Republic of Moldova	19.5	17.3	12.3	7.9	7.1	9.9	12.1	10.3	10.7	16.2	5.3	11.6	9.0	11.7	11.9
Israel	13.5	17.0	17.4	17.5	18.4	16.0	15.4	13.4	11.1	10.1	10.1	10.0	14.8	14.5	11.3
Morocco	7.4	7.0	8.2	8.6	7.3	7.7	8.6	7.8	7.7	8.6	8.7	9.9	8.5	11.1	10.6
Kazakhstan	1.5	1.5	0.0	0.0	1.4	0.9	1.1	1.2	0.9	2.3	4.4	9.1	12.7	5.7	10.3
Libya	8.7	6.9	5.1	5.0	4.9	5.3	5.1	4.9	4.9	4.8	5.6	5.9	6.8	7.7	8.7
Tunisia	9.1	10.2	7.7	7.2	7.4	7.0	7.2	6.0	6.7	5.2	5.2	6.5	5.9	7.1	8.1
Italy	14.0	11.0	15.5	16.9	14.0	16.3	16.9	14.6	15.9	14.6	13.3	13.0	9.9	8.2	7.9
Syrian Arab Republic	13.4	12.9	11.3	10.1	7.4	9.8	10.5	8.0	8.3	8.7	7.9	8.8	9.8	7.0	7.4
China, mainland	1.1	1.3	1.8	2.3	2.6	2.6	2.8	2.9	3.2	3.6	4.1	4.5	5.2	6.1	6.5
Republic of Korea	9.5	9.0	8.3	7.5	7.3	7.6	6.6	6.8	6.9	6.8	6.4	5.9	6.2	5.9	6.4
Iraq	10.5	11.0	11.9	8.7	7.1	6.1	6.1	5.8	6.2	6.3	7.4	6.5	6.6	7.3	6.1
Saudi Arabia	6.2	4.9	5.2	5.1	5.4	5.8	5.9	6.0	6.6	5.6	5.8	5.5	6.0	6.0	5.9
Yemen	8.2	8.2	8.0	8.1	4.9	4.9	5.3	5.5	5.4	5.4	6.8	5.9	6.0	5.9	5.6
New Zealand	1.9	1.3	1.5	2.1	2.2	2.0	3.4	6.2	4.9	4.0	4.7	3.9	4.7	4.8	5.6
Canada	4.6	4.3	4.7	4.9	4.8	5.2	5.1	5.0	5.3	5.0	5.1	4.7	4.9	5.1	5.0
Austria	4.0	3.9	3.3	3.0	9.1	4.3	4.2	3.9	3.7	4.6	3.7	4.0	4.2	4.1	4.0
Switzerland	5.6	4.9	4.9	4.9	6.3	5.9	4.4	4.4	4.9	4.9	4.5	4.5	4.3	4.3	3.9
Brazil	2.4	3.3	3.3	3.3	3.4	3.5	3.8	3.4	3.2	3.3	3.1	3.1	3.1	3.6	3.8
United Kingdom	2.4	2.5	2.8	2.9	3.3	3.5	3.7	3.7	3.9	3.5	3.5	3.3	3.3	3.4	3.6
Portugal	7.1	5.9	5.8	5.6	7.4	7.1	6.7	5.0	4.4	4.3	4.5	3.7	3.6	3.2	3.5
United States of America	2.9	2.7	3.1	2.5	2.7	3.0	2.4	2.7	2.8	2.6	2.8	2.7	2.8	3.2	3.5
Spain	6.5	5.6	5.3	5.4	6.1	5.2	5.4	4.0	3.9	3.7	3.4	4.2	2.9	3.0	3.4
Romania	6.0	5.5	5.1	7.9	5.9	4.3	3.0	4.5	4.0	6.3	3.0	3.0	3.5	3.5	3.4
United Arab Emirates	3.2	2.1	2.0	3.8	1.7	0.1	3.8	2.9	2.9	2.8	2.3	2.1	2.9	3.5	3.3
Germany	3.9	3.9	3.7	3.3	3.5	3.4	3.7	3.4	2.7	2.9	3.0	3.0	3.0	3.0	3.3
Australia	1.8	1.7	1.6	1.8	1.4	1.2	1.9	2.4	1.8	0.7	1.9	3.8	3.5	2.6	2.8
China, Hong Kong SAR	4.8	3.5	4.0	2.3	2.1	2.6	4.9	3.2	3.5	2.6	2.7	2.8	2.8	2.9	2.7
France	3.5	3.5	3.0	3.0	2.9	3.2	2.6	3.0	3.1	3.0	2.5	2.4	2.9	2.6	2.6
Chile	2.5	2.6	2.6	2.5	3.2	3.1	3.0	3.0	2.4	2.2	2.0	2.1	2.3	2.4	2.5
Thailand	0.7	0.7	0.8	0.9	0.8	1.1	1.2	1.3	1.4	1.6	1.6	1.9	2.2	2.2	2.4
Poland	1.9	2.2	1.6	1.7	1.9	2.1	2.1	2.3	2.9	2.3	2.2	2.4	2.1	2.6	2.3
Peru	2.6	3.2	2.1	1.9	2.1	1.8	2.1	1.6	3.0	6.1	5.9	3.1	2.6	3.7	2.2
Russian Federation	0.6	0.6	0.6	0.9	1.5	1.7	1.9	2.2	2.3	2.1	2.3	2.2	2.1	2.0	2.1
Ukraine	5.9	1.4	1.2	2.9	1.7	2.1	1.5	1.9	2.4	1.5	1.1	1.9	2.0	1.8	1.5
India	0.8	0.8	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.2	0.5	0.7	1.3	1.5	1.5
Bolivia	2.5	2.7	2.9	2.5	2.1	2.1	2.1	2.0	1.9	1.3	1.3	1.4	1.4	1.4	1.3
Mexico	1.6	1.8	1.6	1.9	0.8	1.4	1.1	1.4	1.3	1.0	1.2	1.3	1.8	1.5	1.3
Pakistan	0.7	0.8	0.7	0.9	0.7	0.5	0.6	1.1	1.1	0.8	0.9	0.8	0.8	0.6	0.8
Japan	0.5	0.3	0.3	0.5	0.4	0.4	0.4	0.7	0.6	0.5	0.4	0.3	0.5	0.5	0.6
South Africa	0.5	0.7	0.6	0.6	0.6	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.5	0.5	0.5
Argentina	1.0	0.8	1.1	1.1	1.1	1.3	1.1	1.3	1.1	0.9	0.9	0.4	0.7	0.6	0.3
Netherlands	1.9	2.4	1.8	2.4	0.5	0.4	3.6	6.3	4.2	4.3	4.0	2.0	2.5	2.3	0.2

* We refer here to "apparent" consumption based on the "availability" concept in the FAO Food Balance Sheets framework.

Source: FAO, OIV, UN database population

Dried grape production

APPENDIX F

in 1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
South Africa	38	35	42	37	40	30	41	44	42	33	51	33	33	56	46
Other African countries	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Africa	**39**	**36**	**43**	**38**	**41**	**32**	**42**	**45**	**43**	**34**	**52**	**34**	**34**	**57**	**48**
America															
Argentina	11	9	13	11	14	20	17	20	19	23	22	27	12	18	18
Chile	50	45	50	56	54	63	65	67	77	92	75	83	97	83	93
Mexico	4	6	4	4	3	8	9	9	9	8	8	9	13	12	13
United States of America	448	378	402	319	252	324	281	323	354	304	358	349	314	368	320
Total America	**512**	**438**	**469**	**391**	**322**	**416**	**371**	**419**	**459**	**428**	**464**	**468**	**436**	**481**	**444**
Asia															
Afghanistan	28	18	22	34	34	34	34	34	34	34	34	34	34	34	34
China, mainland	85	85	85	90	95	105	125	150	150	185	135	100	150	165	180
India	28	27	30	31	37	9	41	42	43	47	22	31	56	62	62
Iran (Islamic Republic of)	188	188	188	200	213	238	213	200	200	200	200	200	200	200	200
Syrian Arab Republic	12	15	8	7	5	6	5	6	9	16	14	15	14	16	16
Turkey	338	306	329	338	329	362	376	340	368	401	400	409	499	407	429
Other Asian countries	19	20	22	19	17	14	16	18	16	14	12	12	11	10	11
Total Asia	**698**	**657**	**683**	**720**	**729**	**767**	**809**	**790**	**820**	**896**	**818**	**800**	**964**	**894**	**932**
Europe															
Greece	86	89	59	70	83	77	79	52	53	51	60	41	31	35	56
Uzbekistan	30	44	34	30	38	46	39	45	45	56	69	70	75	75	50
Other European countries	10	12	6	5	6	6	6	8	9	9	6	3	3	4	4
Total Europe	**126**	**145**	**98**	**105**	**126**	**129**	**125**	**105**	**107**	**116**	**135**	**114**	**109**	**114**	**110**
Oceania															
Australia	29	20	34	20	30	30	30	15	11	17	14	7	13	7	7
Total Oceania	**29**	**20**	**34**	**20**	**30**	**30**	**30**	**15**	**11**	**17**	**14**	**7**	**13**	**7**	**7**
World	**1 406**	**1 296**	**1 328**	**1 274**	**1 248**	**1 374**	**1 378**	**1 374**	**1 441**	**1 491**	**1 482**	**1 423**	**1 557**	**1 553**	**1 540**

Source: FAO, OIV

Dried grape exports

APPENDIX G

in 1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
South Africa	21	26	34	34	28	22	24	41	39	23	40	17	25	32	35
Total Africa	**21**	**26**	**35**	**34**	**29**	**23**	**24**	**42**	**39**	**23**	**41**	**17**	**25**	**33**	**35**
America															
Argentina	8	7	17	10	18	22	19	29	24	22	23	29	29	29	16
Chile	44	42	42	45	45	53	59	61	65	78	64	70	74	67	66
Mexico	5	5	4	3	4	3	3	2	3	2	4	2	2	2	2
United States of America	94	107	119	119	122	110	114	122	200	153	158	149	131	134	153
Total America	**150**	**162**	**181**	**177**	**189**	**188**	**195**	**214**	**292**	**256**	**249**	**251**	**235**	**232**	**238**
Asia															
Afghanistan	22	14	21	30	21	18	28	18	27	33	24	28	23	30	35
China, mainland	1	1	5	8	12	13	23	26	31	41	40	48	31	36	30
Iran (Islamic Republic of)	105	118	129	144	138	136	120	138	59	122	123	122	150	131	102
Turkey	202	226	201	196	212	227	244	241	199	267	213	214	225	216	226
United Arab Emirates	3	3	16	13	3	17	1	17	12	7	8	7	3	15	13
Other Asian countries	211	235	213	201	217	232	249	245	210	285	220	229	263	256	246
Total Asia	**544**	**597**	**584**	**592**	**603**	**644**	**666**	**684**	**537**	**755**	**627**	**648**	**694**	**684**	**652**
Europe															
Germany	3	3	3	5	5	5	10	11	11	8	13	12	11	11	9
Greece	48	35	28	21	23	33	34	25	19	22	25	37	30	25	23
Netherlands	6	8	10	11	10	9	13	13	10	11	11	18	14	15	11
Uzbekistan	13	17	11	10	18	22	22	31	24	25	23	27	30	18	29
Other European countries	28	33	26	33	37	39	49	49	51	52	56	46	46	49	43
Total Europe	**97**	**96**	**77**	**81**	**95**	**108**	**128**	**128**	**116**	**119**	**127**	**139**	**130**	**117**	**115**
Oceania															
Australia	5	6	6	10	7	7	7	7	5	5	3	1	1	3	2
Total Oceania	**5**	**6**	**6**	**10**	**7**	**7**	**7**	**7**	**5**	**5**	**3**	**1**	**1**	**3**	**2**
World	**818**	**887**	**883**	**893**	**923**	**969**	**1 020**	**1 075**	**990**	**1 158**	**1 047**	**1 056**	**1 085**	**1 068**	**1 042**

Source: FAO, OIV

Dried grape imports

APPENDIX H

in 1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
Algeria	0	1	5	6	6	7	7	9	6	10	8	6	10	7	9
Egypte	4	6	3	3	1	1	2	2	3	2	4	5	2	3	1
Morocco	3	4	6	5	6	7	7	6	5	11	3	1	1	1	1
Other Africa countries	4	3	3	3	3	7	4	3	3	6	5	3	4	4	4
Total Africa	**11**	**15**	**16**	**17**	**17**	**21**	**20**	**20**	**17**	**29**	**20**	**16**	**18**	**15**	**14**
America															
Brazil	15	16	14	15	17	16	20	19	20	23	26	24	25	25	24
Canada	32	30	31	34	34	32	36	34	31	31	33	28	28	27	28
Colombia	4	4	5	5	5	5	5	6	6	6	6	7	7	7	7
Mexico	10	10	11	11	13	14	12	14	13	18	14	20	18	16	18
Peru	4	4	5	4	5	5	5	6	6	6	7	7	6	6	7
United States of America	14	13	15	13	12	24	22	28	22	20	22	18	16	16	14
Other America countries	12	11	11	11	13	14	15	18	17	15	14	13	17	18	20
Total America	**93**	**90**	**92**	**93**	**99**	**109**	**115**	**125**	**116**	**118**	**123**	**116**	**115**	**115**	**117**
Asia															
China, mainland	1	1	5	8	11	11	11	12	13	12	14	21	22	20	23
China, Hong-Kong SAR	5	5	5	3	3	4	3	3	2	2	2	2	3	3	2
India	6	8	5	10	7	8	9	8	9	9	10	5	6	12	15
Israel	1	2	1	1	2	2	2	3	2	2	3	2	2	3	3
Japan	27	28	31	30	34	30	29	32	30	27	30	30	29	30	30
Republic of Korea	3	3	3	3	3	3	3	4	4	4	4	4	4	4	5
Thailand	0	0	0	0	0	1	1	1	2	1	2	2	2	2	3
Turkey	2	3	1	2	2	4	5	5	3	2	3	2	2	2	2
United Arab Emirates	25	28	29	31	27	30	29	30	21	17	18	20	22	24	22
Other Asian countries	34	45	49	45	46	47	56	50	48	43	61	60	52	52	52
Total Asia	**105**	**124**	**130**	**134**	**136**	**140**	**149**	**148**	**135**	**119**	**145**	**148**	**145**	**153**	**156**
Europe															
Belgium	17	14	15	16	14	17	16	16	18	18	21	17	18	26	24
France	23	23	27	24	25	27	26	28	26	24	26	24	23	25	24
Germany	65	65	71	68	79	75	80	82	79	73	80	83	75	79	77
Greece	2	2	0	3	3	2	5	4	6	7	2	4	4	6	4
Italy	21	20	21	21	22	22	26	22	20	19	22	21	20	22	21
Netherlands	41	44	44	46	47	44	49	59	50	51	55	58	56	58	56
Poland	14	15	14	13	16	19	18	15	15	15	16	16	13	15	16
Portugal	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3
Romania	2	2	3	2	3	3	4	4	3	4	4	4	3	4	4
Russian Federationn	47	48	52	60	65	63	68	68	69	69	67	45	46	43	34
Spain	5	5	6	6	7	8	8	8	9	8	9	10	13	16	16
Sweden	5	5	5	5	6	7	7	7	8	8	8	7	8	7	8
Ukraine	7	10	14	17	18	16	18	19	19	18	17	20	19	20	15
United Kingdom	99	102	103	105	111	114	118	121	117	117	122	117	112	116	113
Other European countries	55	58	56	59	64	65	73	78	82	80	83	83	88	86	103
Total Europe	**404**	**415**	**433**	**448**	**482**	**482**	**518**	**532**	**523**	**513**	**534**	**512**	**502**	**525**	**517**
Australia	17	17	21	19	25	21	12	27	29	27	23	29	26	25	26
New Zealand	8	8	7	7	8	8	8	8	8	8	8	8	9	7	8
Total Oceania	**25**	**25**	**28**	**26**	**33**	**30**	**20**	**35**	**37**	**35**	**31**	**37**	**34**	**33**	**34**
World	**637**	**669**	**698**	**717**	**766**	**782**	**822**	**860**	**827**	**815**	**853**	**829**	**815**	**842**	**838**

Source: FAO, OIV

Dried grape consumption *

APPENDIX I

in 1000 t

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Africa															
Morocco	4	5	6	5	7	7	7	6	5	5	5	4	2	2	2
South Africa	18	9	9	8	13	12	9	8	8	12	11	16	8	24	11
Other African countries	7	9	9	12	9	11	13	12	14	16	17	15	16	15	15
Total Africa	**29**	**23**	**24**	**25**	**28**	**30**	**29**	**26**	**27**	**33**	**33**	**35**	**26**	**40**	**28**
America															
Brazil	15	16	14	15	17	16	20	19	20	23	26	24	25	23	24
Canada	31	30	30	33	32	30	34	33	30	30	32	26	26	26	27
Chile	6	3	8	11	9	12	6	6	12	14	12	13	23	19	25
Mexico	10	11	12	12	13	19	17	21	19	24	18	26	29	26	29
Peru	4	4	5	4	5	5	5	6	6	6	7	7	6	6	7
United States of America	345	287	264	196	200	221	174	212	158	155	203	204	204	227	222
Other American countries	21	17	18	17	18	18	20	24	23	21	20	20	22	23	27
Total America	**432**	**368**	**351**	**288**	**294**	**321**	**277**	**320**	**268**	**273**	**319**	**320**	**335**	**350**	**361**
Asia															
Afghanistan	6	4	3	4	12	16	6	15	7	2	11	5	11	5	5
China, mainland	85	85	86	90	94	103	113	137	132	130	115	92	142	149	172
China, Hong Kong SAR	3	3	4	2	2	1	1	1	1	1	2	2	2	2	2
India	34	35	34	41	44	44	46	47	45	49	23	30	31	40	40
Iran (Islamic Republic of)	82	69	59	56	75	76	65	65	96	101	97	107	114	94	98
Japan	27	28	31	30	34	30	29	32	31	27	31	30	29	30	30
Republic of Korea	3	3	3	3	3	3	4	4	4	4	4	4	4	4	5
Syrian Arab Republic	12	15	8	7	5	6	5	7	9	16	15	15	14	16	16
Turkey	138	83	129	144	119	140	137	104	150	159	190	197	230	213	220
United Arab Emirates	22	26	14	18	24	13	28	13	10	10	10	13	19	20	17
Other Asian countries	55	58	57	58	62	58	69	81	74	63	70	70	79	75	73
Total Asia	**468**	**409**	**429**	**454**	**472**	**489**	**503**	**505**	**557**	**562**	**566**	**564**	**676**	**647**	**677**
Europe															
Austria	5	5	5	5	5	6	6	6	5	5	5	7	7	7	8
France	21	22	25	21	22	23	23	24	23	22	24	22	21	24	23
Germany	60	61	67	61	72	66	70	70	66	62	68	71	70	70	68
Greece	35	50	28	48	57	41	34	28	36	32	34	28	40	37	37
Ireland	6	4	6	4	4	4	5	5	6	6	6	6	6	6	6
Italy	19	19	20	21	21	21	23	21	20	19	21	20	19	20	21
Netherlands	33	33	32	32	35	33	34	43	37	38	41	38	40	41	43
Poland	14	15	14	13	16	18	17	14	15	14	15	15	12	14	15
Portugal	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3
Romania	2	2	2	2	3	3	4	4	3	3	3	4	3	3	4
Russian Federation	47	48	52	60	65	63	68	68	69	69	67	45	46	43	30
Spain	11	11	11	13	8	8	8	8	9	8	9	10	13	16	16
Ukraine	7	10	14	17	18	16	18	18	19	18	17	20	19	20	15
United Kingdom	98	100	101	103	108	111	115	119	114	112	117	112	109	112	110
Uzbekistan	17	27	23	20	19	24	17	14	21	31	40	46	52	58	50
Other European countries	54	55	55	56	59	59	66	70	71	70	68	72	78	86	97
Total Europe	**431**	**465**	**457**	**479**	**514**	**498**	**510**	**515**	**515**	**510**	**538**	**519**	**536**	**560**	**545**
Oceania															
Australia	40	35	46	30	42	45	35	35	35	39	34	36	38	29	31
New Zealand	8	8	7	7	8	8	8	8	8	8	8	8	9	7	8
Total Oceania	**47**	**43**	**53**	**37**	**50**	**53**	**44**	**43**	**43**	**48**	**42**	**44**	**47**	**37**	**39**
World	**1407**	**1307**	**1314**	**1284**	**1359**	**1391**	**1362**	**1410**	**1410**	**1426**	**1497**	**1482**	**1620**	**1635**	**1650**

* We refer here to "apparent" consumption based on the "availability" concept in the FAO Food Balance Sheets framework.

Source: FAO, OIV

Dried grape consumption per capita*

APPENDIX J

kg/hab

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Greece	3.2	4.6	2.5	4.3	5.2	3.7	3.1	2.6	3.3	2.9	3.0	2.6	3.6	3.4	3.4
Turkey	2.2	1.3	2.0	2.2	1.8	2.1	2.0	1.5	2.1	2.2	2.6	2.7	3.1	2.8	2.8
Netherlands	2.1	2.1	2.0	2.0	2.1	2.0	2.1	2.6	2.3	2.3	2.5	2.3	2.4	2.4	2.5
United Arab Emirates	7.3	8.2	4.2	5.3	6.6	3.1	5.6	2.2	1.4	1.3	1.2	1.5	2.1	2.1	1.9
United Kingdom	1.7	1.7	1.7	1.7	1.8	1.8	1.9	2.0	1.9	1.8	1.9	1.8	1.7	1.8	1.7
Uzbekistan	0.7	1.1	0.9	0.8	0.7	0.9	0.6	0.5	0.8	1.1	1.4	1.6	1.8	2.0	1.7
New Zealand	2.0	2.0	1.8	1.7	1.9	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.9	1.6	1.7
Ireland	2.0	1.2	1.8	1.3	1.2	1.3	1.6	1.4	1.6	1.6	1.7	1.7	1.6	1.6	1.7
Chile	0.4	0.2	0.5	0.7	0.6	0.7	0.4	0.4	0.7	0.8	0.7	0.7	1.3	1.1	1.4
Australia	2.1	1.8	2.3	1.5	2.1	2.2	1.7	1.6	1.6	1.8	1.5	1.6	1.6	1.3	1.3
Iran (Islamic Republic of)	1.2	1.0	0.9	0.8	1.1	1.1	0.9	0.9	1.3	1.4	1.3	1.4	1.5	1.2	1.2
Austria	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.8	0.8	0.9	0.9
Germany	0.7	0.7	0.8	0.7	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.9	0.8	0.8	0.8
Canada	1.0	1.0	1.0	1.0	1.0	0.9	1.1	1.0	0.9	0.9	0.9	0.8	0.7	0.7	0.8
Syrian Arab Republic	0.7	0.9	0.5	0.4	0.3	0.3	0.3	0.3	0.4	0.8	0.7	0.7	0.7	0.7	0.7
United States of America	1.2	1.0	0.9	0.7	0.7	0.7	0.6	0.7	0.5	0.5	0.7	0.6	0.6	0.7	0.7

* We refer here to "apparent" consumption based on the "availability" concept in the FAO Food Balance Sheets framework.

Source: FAO, OIV, UN database population

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